ICT INTEGRATION IN EDUCATION MANAGEMENT

UNIT 6



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- The use of ICTs in education is a teaching and a learning tool, as long as an important tool for administrative organization.
- Use of ICT helps speed up the integration of administrative functions, while ensuring a modern method of administration, giving faster administrative transactions.
- In this Unit, we will look at how ICT can be integrated in various administrative functions of the school in order to enhance efficiency and effectiveness. Specifically, we will the benefits of ICT in management.
- We will also learn about the automation of different administrative process and the role of management in ICT integration.
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Learning Outcomes

Upon completion of this unit, you will be able to:

i. Apply the 4-in- Balance Model in management of ICT integration
ii. Appreciate the role of ICT integration in education management
iii. Apply the national ICT policy in education and training
iv. Develop an institutional ICT policy
v. Apply the Education Management Systems
vi. Appreciate the role of institutional websites inn marketing a school

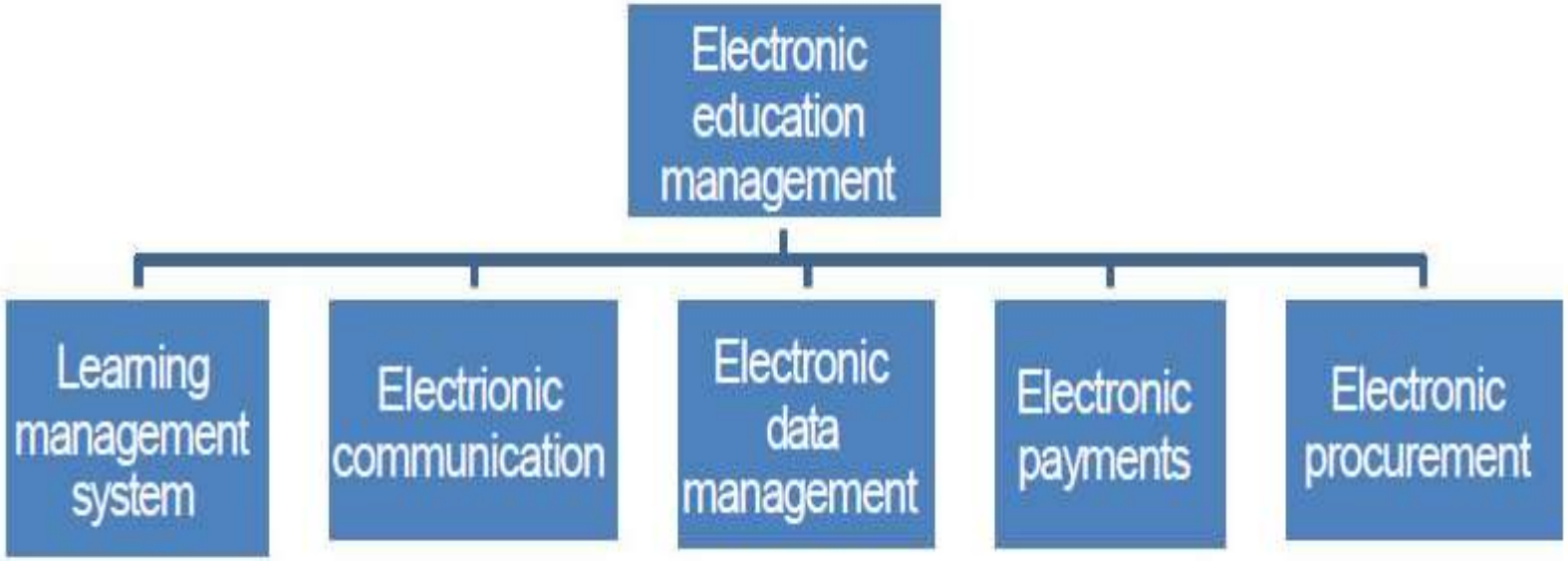
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Use of ICT in School's Administrative Processes

- As a result of rapid changes in education, there is a growing demand for educational institutions to integrate ICT in all their management endeavours.
- ICT integration plays a vital role in supporting powerful and efficient school management in the education sector.
- Schools can harness the technology capabilities in personnel management, student management, resource management, financial management, security and general management.
- Therefore, Information communication technology can improve or enhance the management duties of school heads.
- For these benefits to be reaped the school heads should provide technological support and visionary leadership.

The following figure illustrates the various ways ICTs can b e used in education management:



Learning Management System

- Electronic education management involves using a Learning Management System (LMS).
- This is software that deploys, manages, tracks and reports on interaction between learner and content and between learner and instructor.
- In particular, LMS performs student registration, tracks learner progress, records test scores, and indicates course completions and finally it allows trainers to assess the performance of their learners.



Main features of a Learning Management System: The following are the features of a LMS:-

i. **Registration:** It enrolls and administers learners online for web-based, instructor-led, and all other learning activities.

ii. **Scheduling:** It schedules courses and define curricula to address individual and organizational learning needs. Also off-line resources can be included (classrooms, books, coaches etc.).

iii. **Delivery**: It delivers online courses and assessments or schedule instructor-led courses.

iv. **Tracking:** It tracks the progress of the learners and creates reports.

v. **Communication:** It communicates by chat, discussion forum, mail, screen sharing and e-seminars.

vi. **Testing:** It tests and assesses competency, learning styles and student commitment.

Examples of Learning Management Systems

The following are examples of learning management systems:

- **Google classroom:** This LMS allows teachers to create and collect assignments, see what students have finished, and give real-time feedback — all online. This means saves learners from travelling from home to school with piles of assignments.
- **Haiku learning:** This cloud based LMS tries to simplify the task of running both classrooms and schools. Haiku allows educators to keep assignments, feedback, and grades online. It uses Google education apps to essentially streamline what's been done already while also looking ahead to what's new. For example, the new trend of assessing students on standards is already integrated into the system.
- **Moodle:** This is a free open-source learning platform. Documentation, trackers and resources are all provided through Moodle. If a teacher or administrator is techo-savvy enough, they can customize the Moodle program to their school needs.

Electronic communication

- Electronic communications lets you combine numerous media - text, graphics sound, video, etc. - into a single message.
- That can result in far more meaningful communications tailored to the nature of your particular audience.



- Education managers can use the following forms of electronic communication:

(a). **Cell phones:**

- Cell phone use has increased exponentially in the developing world.
- There are now more cell phones in use in developing countries than in the developed countries.
- Cell phones already reach more schools than computers have or will in the next five years—and will form an essential part of any future EMIS.
- Cell phones are already used to —log school locations and to communicate key information such as —attendance or enrolment data to district or national offices rapidly.

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- They are typically more —sustainable because people want them for multiple reasons (virtually every person or family wants to communicate)—but mainly because they allow for relatively cheap communication.
- Cell phones can also provide a relatively low cost option for communicating between users and suppliers of key school necessities.
- Some major journals have begun to call Cell Phones, the —computers for Africa as just one example of the understanding of both the commercial feasibility, but as well the widespread acceptance and use of such devices

(b). **Web pages**:

- World Wide Web users post content on websites for others to view.
- The content may be simple text, but it might also contain multimedia files including images, sounds, videos or streaming content.
- Unlike many other forms of electronic communication, most Web content is pulled from the Web by users who are seeking information, rather than pushed to subscribers.
- While not as permanent as traditional media like paper, Web pages can archive information for extended periods.

(c). Email

- Email is a method originally intended to imitate physical mail.
- Messages are delivered from one specific address to one or more specific addresses. Users are alerted to the presence of new messages in their inboxes by email clients that display the content and offer an opportunity to reply.
- Messages are primarily text but may include file attachments of various types including images and short movies.

(d). **Forums:**

- Conversations that go on indefinitely, involve large numbers of people or need to be archived are not well suited to email.
- Forums, often hosted on the Web, provide an alternative that combines many of the aspects of email and Web pages.
- They involve discussions around a single, limited topic but can take place over months or years and involve dozens or even hundreds of participants.
- Most use a treelike structure that allows participants to jump in at whatever level their comments are most appropriate.

(e). **Text and instant messaging**:

- Text messaging uses cellular airwaves and protocols to deliver textual messages from one cellular phone to another or from one phone to a group of other phones.
- Text messaging is usually intended as near-instant communication and can be quicker than a phone call because the sender doesn't have to wait for the recipient to answer before delivering a message.
- Because text messaging is informal and easy, it's sometimes called chatting.
- Text messaging can also facilitate private discussions when there is a chance that a phone call could be overheard.
- Instant messaging is similar to text messaging but is carried over the Internet rather than over cell phone airwaves.

(f). **Social networking:**

- Social networking sites facilitate communication among people with common interests or affiliations.
- Sites such as Facebook and LinkedIn provide places for people to interact, sometimes in real time.
- Microblogging services like Twitter, allow short textual messages of no more than 140 characters to be broadcast to a large audience.
- Unlike text messages, which are delivered to only small groups, microblog posts are intended to be seen by all of a user's followers.
- Microblog users can repost messages that they want to share with their own followers, so a microblog post can spread quickly. A widely reposted message is called a viral post.

(g). **Video chat:**

- Like instant messaging, most video chatting is conducted over Internet protocols that stream images from one device to another.
- Video chats provide immediacy to a conversation.
- Because a person's tone is often easier to read when you can see his/her face, organizations often use videoconferencing to aid in virtual meetings.

Activity

Many organizations are using electronic communications facilities, such as the World Wide Web, as internal communications tools to enhance team work. Many individuals at different locations can work on the same documents, hold meetings and integrate research findings.

- *Discuss how electronic communication can improve the quality of education management in Kenya*.

Electronic Data Management

- Electronic data is information that is dynamic, lives, can be technically manipulated and communicated.
- Electronic data systems consist of numerous components, pieces, and functions: data warehouses, data marts, data dictionaries, extraction-translation-loading (ETL) tools, data cleansing, analytics, user portals, decision support, identity management, and more.
- Electronic data systems are used in management as follows:-

(a). **Integrated Payroll and Personnel Database (IPPD):**

- The Government of Kenya introduced the IPPD to help address the challenges of manual payroll administration.
- IPPD is a computerized system that was conceived to replace the manual and semi-manual system, which was cumbersome, causing salary delays, inaccuracy in determining staffing levels and leading to poor accountability of funds.
- IPPD embraced processes and procedures aimed at gathering, storing and processing information for effective and efficient decision making.
- With the introduction of the IPPD, there has been provision of accurate, timely and reliable personnel information for decision making thus enhancing efficiency and improving performance in public personnel management.

(b). **Education Management Information System (EMIS):**

- The MOE is in the process of fully operationalizing EMIS.
- EMIS is a system for collection, integration, processing, maintenance, dissemination of data and information to support planning, monitoring and management at all levels of education system.
- The goal of EMIS is to promote educational development through informed decision making practices.
- The school remains the core source of most of the required data items.
- The way records are kept in the schools matters a lot when it comes to data collection for EMIS functions.
- After the data is collected, the EMIS is programmed to process and analyse the data.

- A good example of EMIS is the National Education Management Information System (NEMIS).
- NEMIS refers to a comprehensive Education Data Management Information System which is used as the single source of information for the Kenyan education system (schools, learners and facilities). It is designed to provide quality data that is reliable, relevant, and easily accessible.

Objectives NEMIS

Through the use of NEMIS, the Ministry hopes to achieve the following:

i. **Governance and Accountability**: NEMIS will enable the Ministry to efficiently and transparently allocate resources to learners with a view to enhancing maximum efficiency and value for money. This will be done through:

ii. **Unique Personal Identifier:** This is one of the hallmark features of the NEMIS. Every learner in Kenya will have a globally unique 6-character Unique Personal Identifier (UPI) to be used at every stage of the learner's education.

iii. **School Code:** Another hallmark feature of NEMIS is the unique school code. Through NEMIS, each institution of learning will be issued a mandatory unique identifier of the form AAAA. Any school that will have no unique code shall be deemed not to exist.

iv. **Evidence Based Decision making and planning:** NEMIS data will be utilized for evidence based decision making at all levels of education. Data-driven planning is known to be more effective for an education system as resources are allocated effectively. Likewise, Governments design and implement data-driven policies that are based on facts and reality. For example; government capitation to public schools is bases on enrolment data on NEMIS.

v. **Monitoring and Evaluation:** Monitoring and Evaluation through an enhanced quality and assurance framework. NEMIS will generate education statistics on institutions, enrolment, human resources and physical facilities to facilitate this role.

vi. **Access to NHIF:** Using the unique personal identifier, a learner can be able to access medical services under the cover of Edu Afya

(c).Teachers Management Information System, TMIS:

- This is a portal for teachers to update data from the Teachers Service Commission, TSC.
- TMIS enables teachers to update their Bio data and other details.
- School details required include: basic school details, Ordinary enrollment, Teachers' details, Teachers on Study leave, Subject Enrollment (CBE), Non-full Teaching load (due to illness) and KCPE/ KCSE Performance.

(d). Institutional electronic data management systems:

- Educational institutions also use their own electronic document management system to centralize their critical information. Letters, transfer forms, contracts, emails, voice messages, board minutes, faxes, and more can all be stored centrally in a single, digital information repository, providing a global overview of all of an institution's information to those who are allowed to access it.
- This system allows the school to store information electronically thus letting the school categorize files so that they can be located when needed.
- A Web-based system allows authorized persons to access the information they need from remote offices, from their desktops at home, or wherever it is needed.

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Activity

Discuss how schools can contribute to the success of National Education Management Information System (NEMIS)



Electronic payments

- Electronic payment systems are stimulated by reduced operational and payments processing costs, growing online commerce and decreasing the costs of technology.
- The aim of electronic payment is to provide a more efficient service, primarily in terms of costs. Below are examples of electronic payment systems:

(a). **Kenya Electronic Payment and Settlement System (KEPSS):**

- This is Kenya's Real Time Gross Settlement (RTGS) System which went live on July 29th 2005.
- It is wholly owned and managed by the Central Bank of Kenya (CBK). RTGS is a specialist funds transfer system where transfer of money or securities takes place from one bank to another on a "real time" and on "gross" basis.
- Settlement in "real time" means payment transaction is not subjected to any waiting period.

- . In RTGS systems the settlement of payment transactions occurs on a transaction-by-transaction basis.
- The transactions are settled individually, continuously and in real time in the accounts of the participants in central bank provided that the sending participant has sufficient covering balance or credit (settlement limit).
- Considering that money transfer takes place in the books of the Central Bank of Kenya, the payment is taken as final and irrevocable.
- RTGS systems mitigate systemic settlement risk inherent in large value net settlements.

Benefits of an RTGS system include:

- Real time funds transfer
- Finality of funds settlement
- Risk control mechanism
- Payments process simple
- Optimization of liquidity
- Efficient funds management
- Allows large value transfers between banks
- Enables fund movement between cities
- Permits on-line real time query of the funds position

(b). **G-Pay System:**

- The G-pay is an electronic payment system used by the Government of Kenya and Central Bank of Kenya clients to effect payments.
- To facilitate the electronic payments, the Central Bank is linked to Ministry of Finance via fibre cable then the Government ministries and departments are linked to the Ministry of Finance platform.
- All government payments from accounts held in Central Bank are made through an electronics payment method known as RTGS (Real Time Gross Settlement System) irrespective of amount involved whether a small or large payment.
- From the government side, payments are processed through an electronic payment system known as IFMIS (Integrated Financial Management Information System) that is interfaced with the Central Bank's G-Pay system to facilitate payments directly into customers' accounts in local commercial banks.

(c). **Electronic Fund Transfer System (EFT):**

- EFT is an electronic fund transfer modes that operate on a Deferred Net Settlement (DNS) basis which settles transactions in batches.
- In DNS, the settlement takes place at a particular point of time.
- All transactions are held up till that time.
- For example, EFT settlement takes place once a day.
- Any transaction initiated after a designated settlement time would have to wait till the next designated settlement time.

(d). **M-Pesa**:

- M-Pesa was originally designed as a system to allow microfinance-loan repayments to be made by phone, reducing the costs associated with handling cash and thus making possible lower interest rates.
- But after pilot testing it was broadened to become a general money-transfer scheme.
- Once you have signed up, you pay money into the system by handing cash to one of Safaricom's agents who credits the money to your M-PESA account.
- You withdraw money by visiting another agent, who checks that you have sufficient funds before debiting your account and handing over the cash.
- You can also transfer money to others using a menu on your phone.
- Cash can thus be sent one place to another more quickly, safely and easily than taking bundles of money in person, or asking others to carry it for you.

Activity

- Discuss how you would use e-payments in your educational institution towards improving ease of doing business.

(e). **Electronic cards:**

- Electronic cards that contain information can be used for payment purpose.
- Payment cards come in three types:
  - Credit cards
  - Charge cards
  - Debit cards
- Electronic cards are processed to determine whether a buyer's card is active and whether the customer has sufficient funds settlement and then transferring money from the buyer's to the merchant's account.

(f). **Smart card:**

- A smart card containing a small gold plate on the face that when inserted in a smart card reader makes contact and passes data to and from the embedded microchip.
- The smart card reader activates and reads the contents of the chip on a smart card, usually passing the information on to a host system.
- The smart card operating system handles file management, security, input/output (I/O), and command execution and provides an application programming interface (API) for a smart card.
- Smart cards are more secure than conventional payment cards.

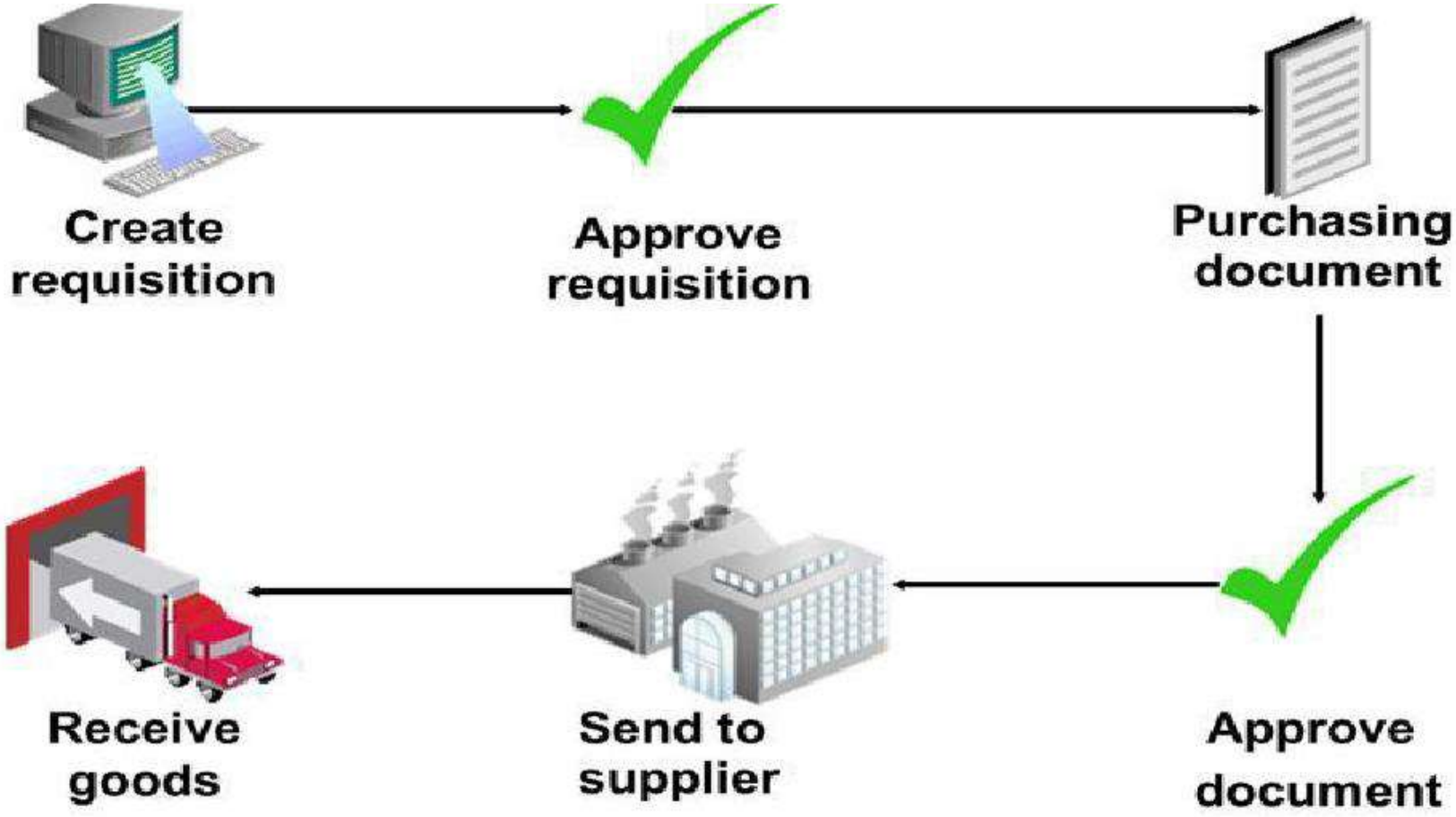
Electronic procurement

- E-procurement is the use of electronic tools to engage in procurement activities, including sourcing, ordering, commissioning, receipting and making payments for the whole spectrum of an institution's activities.
- The prime objective is to electronically enable the management of the supply chain using integrated software tools.
- E- Procurement is thus a collective term for a range of technologies that can be used to automate the internal and external processes associated with sourcing and buying.
- Below is an example of an e-procurement system:-

The GoK e-Procure to Pay system:

- Procure to pay (P2P) is a major component of the IFMIS system.
- Its aim is to provide an efficient and streamlined procurement and payment system by fully automating the procurement and payment process.
- This will among others increase control and visibility over the entire life-cycle of a procurement transaction from procurement planning to payment, reduce paperwork, eliminate physical delivery of documents and ensure that suppliers receive payments in days instead of weeks.

- Some of the key procurement functionalities configured in the IFMIS Procure to Pay system are:
  - Procurement planning;
  - supplier management;
  - requisition management;
  - Quotation management;
  - purchase order(PO) management;
  - Receipt Management;
  - Invoicing and payments;
  - Inventory management;
  - contract management;
  - Reconciliations and period End Close.
- The ordering process flow within the e-procure to pay system focuses on procurement activities from the request of goods and services to their eventual receipt as illustrated below:

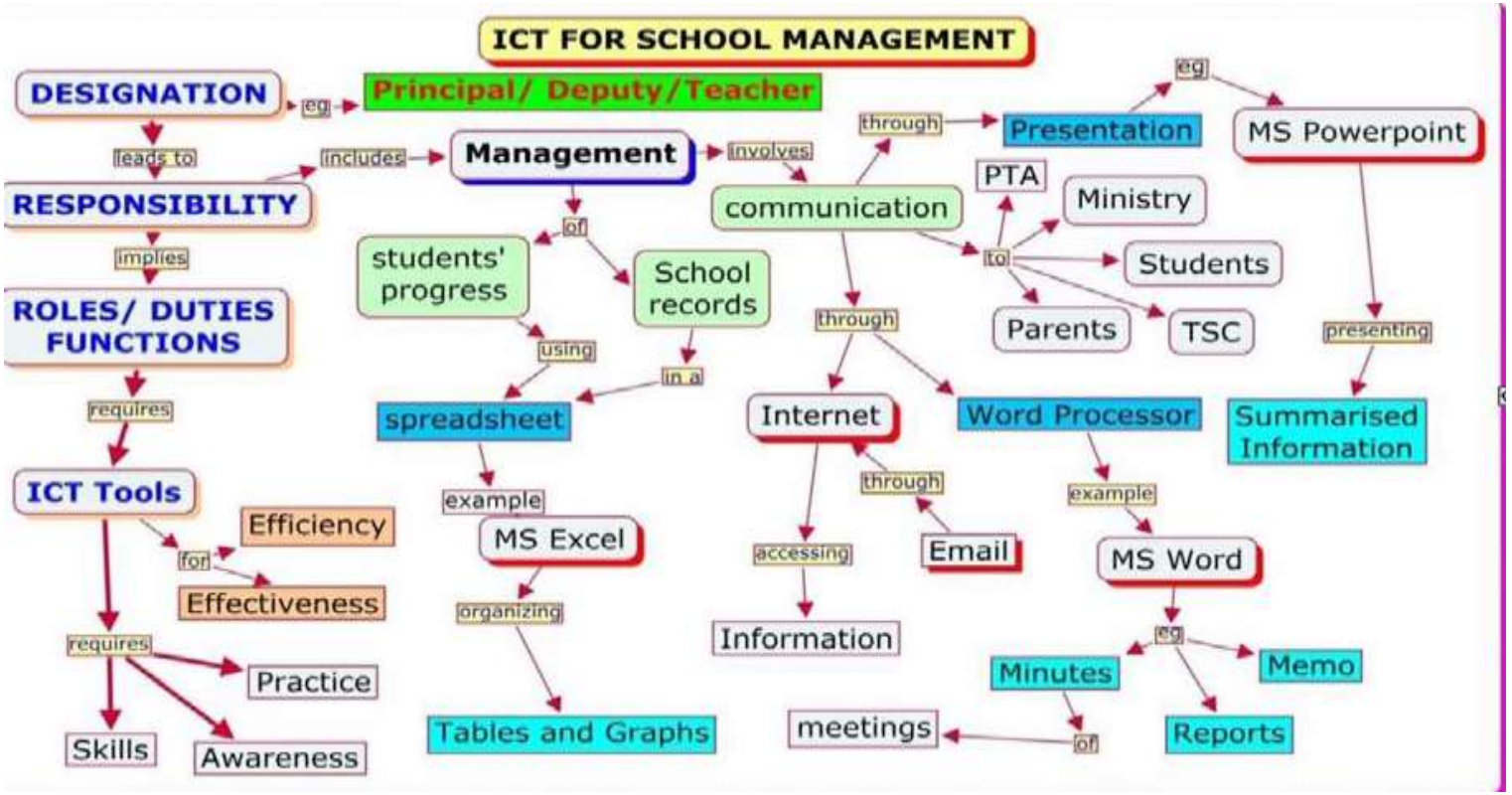

Create requisition
Approve requisition
Purchasing document
Approve document
Send to supplier
Receive goods

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Activity

Activity



Study the diagram above and discuss how you can integrate ICT in your education institution.

Leadership and Organization Change required for ICT Integration

- ICT integration in teaching, learning and management of education institutions calls for a paradigm shift from the old and conventional way of doing things, to use of available tools in performance of tasks.
- Education managers ought to support and manage the change process.
- Change management ensures that people and processes are prepared to succeed in a new environment.
- The implementation of a new ICT project in an institution does not end with buying computers.
- Deploying ICT in schools involves many different participants and touches on many aspects of the education system.
- Deployment also entails a major change in how learners learn, how teachers teach and the role of administrators, parents and others in the education ecosystem.

- While the technology deployment will bring significant learning and socio-economic benefits, in the short term many stakeholders may consider it disruptive.
- This is especially true in schools, where people may be less familiar with ICT. Managing the transition from traditional learning methods to technology-enabled, student-centred education requires a change management strategy.



Change Management Plan:

- Developing a comprehensive plan for change management allows planners to navigate the potential problems that may occur during implementations and to avoid some problems entirely.
- Successful change management plans contain several key components as shown below:

(a). Leader involvement:

- Individuals throughout an educational system will look to leaders to see whether they are embracing the change they are promoting.
- Administrators, union leaders and senior teachers are especially important here. Leaders who embrace technology deployment, and who motivate and challenge everyone to embrace them, are more likely to succeed in bringing about change.

- For example, school principals may attend trainings with teachers, showing their willingness to commit their time to learning about technology.
- Administrators or head teachers may model effective integration of the technology by using it for their administrative duties.
- Participation gives those involved a sense of control over the change activity.
- All teachers should be encouraged to share their technical and pedagogical methods and working in teams in integrating ICT into teaching and learning.

(b). **Learn the technology**:

- The institutions leaders' proficiency in ICT is important.
- Leaders who are computer literate are more aware of their staff member's needs.
- Learning the basics of word processing, spreadsheets, presentation software, using web page and the Internet are prerequisite to boost their computer skills.
- Leaders can form a collaborative network and seek knowledge and training.
- In order to stay ahead and becoming a competitive person, keeping abreast with the latest technology such as wireless technology and so forth are pertinent for the school leaders.
- With the vast amount of information and materials around will leave the school leaders nothing less than being a well- informed technology person.

c). Communication:

- In order to embrace change, people need to understand it.
- It is essential, therefore, to create a comprehensive communications plan that lays out what the technology in education program is trying to achieve and what steps are needed to get there.
- Communications must be timely and clear, and they must reinforce core messages and the program's vision.
- Communications should stress how the program will benefit teachers, administrators, parents and primary-school students.
- Communications with teachers can be made easier by negotiating the introduction of technology with teacher unions, which will then become allies in communicating the changes to teachers.
- At the outset, program implementers can hold focus groups with key figures in the school and community, explaining the technology and its overall fit with the area's education plan.

(d). Orientation and training*:*

- Training all stakeholders affected by a technology deployment is highly important and should begin well in advance of an actual implementation.
- Training reduces the stress that often accompanies a major change by letting stakeholders build the confidence and skills they need to navigate change.
- Again, this is especially important for schools, where there may be limited experience with computers.
- ICT training programme for the teachers should be motivational.
- Set up a team which consists of teachers with varying skills and competencies; acquire new inputs from other experts such as teachers from other schools; implement a mentoring system to help teachers with minimum skills in ICT; and provide opportunities for teachers to pursue ICT training.

e) Foster smart partnership:

- Having a clear vision for technology is essential in der to make wise decisions in integrating and managing ICT in schools.
- In gaining ICT expertise and fund raising, leaders can foster smart partnership with the community, public and corporate sector.
- Resourceful leaders should explore many avenues for acquiring technology resources in order to increase accessibility and equity of ICT among the students.

f) Benchmarking other schools:

- As the use of new technologies is increasing, the school should anticipate and prepare for an ongoing change.
- In doing so, leaders can exchange information with other schools, be it in pedagogical methods or managerial styles.
- They can benchmark schools that have good reputation for having an established ICT system in teaching and learning or using ICT effectively in school management.
- This will broaden knowledge and ideas in integrating ICT in schools.

(g). **Feedback and recognition:**

- Programs that are set up to provide —quick wins, or early measures of success, may be more sustainable.
- People like to feel that their efforts are producing tangible results, and that they are making progress toward the ultimate goal.
- Similarly, recognizing positive efforts towards change (for example, by giving awards to teachers who make the most innovative use of technology in the classroom or creating school- or district-wide contests to acknowledge students that excel in collaborative or multi-media projects), and discouraging efforts aimed at blocking change, reinforces leadership's commitment to technology in education deployments.
- Assessments on subjects that the community deems important (e.g., materials that will be on important exams) may yield outcomes that resonate with local policymakers.
- Assessments could be given before the program is implemented and then early on in its life, and the results could demonstrate quickly and effectively how the computers are aiding learning.

(h). **Consistency**:

- ICT in education programs are long-term initiatives that require continual monitoring and refinement.
- Change is, in these cases, a continual process.
- Change leaders must remain committed to reinforcing their message and guarding against complacency.
- Implementers may take advantage of leading community members, who will be more likely to stay in the area, to help provide constant support to the program**.**

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Role of School Leadership in Change Management for Effective ICT Integration

- Education leaders need to be equipped with knowledge, skills, attitudes and values on how to lead and manage the anticipated change resulting from integration of ICT in education.
- Change should not be disruptive, but should be a welcome transformation.
- The responsibility of managing change in ICT integration in education lies with the education managers, institutions' Boards of Management, Curriculum Support Officers, Head of institutions, Teachers, Parents and the learners.

The role the Head of Institution (HOI) and the Boards of Management as Chang agents in the adoption of ICTs by schools includes:

i. Ensure that there is requisite ICT infrastructure to receive ICT devices.
ii. Ensure that the teachers are trained and can integrate ICT in teaching.
iii. Provide leadership in development and implementation of ICT policies
iv. Be the custodian of ICT devices
v. Ensure the necessary technical support is available
vi. Ensure adherence to procedures during the procurement of ICT infrastructure
vii. Account for all funds disbursed and ensure proper documentation at all stages
viii. Provide security and take responsibility for the storage, servicing and maintenance of the entire ICT infrastructure
ix. Ensure continuous development and improvement of teachers in ICT integration

Policy, Vision and Strategy

- In Module 1, we discussed ICT policy in education and trying and we learnt of the overarching need for all education institutions to be familiar with the content of the nation ICT integration policy in education and training.
- Institutions are also expected to customize the national policy and come up with an institutional ICT policy.
- In the next section, we will discuss the look at policy, vision and strategy for ICT integration

ICT policy:

- It is important for every education institution to have an ICT policy.
- The policy is a blue print for the institution to design and manage ICT integration in a systematic and progressive manner.
- The ICT policy includes the vision, the beliefs that underpin it, and the plan for implementation of ICTs and rules and procedures for using computers and other ICTs in the institution.
- With complex and expensive equipment like ICTs at your institution, it is important to have a policy to guide its usage and care.

A good ICT policy should consist of the following components:

1. Preamble
2. Objectives
3. Scope
4. Precautionary and disciplinary measures
5. Email policy
6. Internet policy
7. Network security and access policy
8. Data centre and DRC access policy
9. Policy on printers, telephone lines, fax and copiers.
10. Policy on passwords
11. Policy on ICT related training
12. Policy on online subscriptions
13. Policy on ICT disaster recovery
14. Policy on ICT technical assistance request and complaints.
15. Miscellaneous
16. Revision
17. Notes
18. Approval
19. Abbreviations

ICT vision

The ICT vision statement shows where you want to go or be in the future. The vision is an image of your desired future. It is not a vague statement but an operational strategy. Below are examples of ICT Vision Statements:

i. To improve students' achievement by using ICT in new and creative ways, encouraging variety in the way the curriculum is delivered to inspire wonder and awe in our students.

ii. To use ICT to help parents connect with the learning occurring in school, and to form strong links as a learning community.

iii. To safeguard our students' interests and protect them by ensuring we are always mindful of the effects of developing ICT within our school.

iv. We envisage an environment where the use of ICT is regarded as an integral part of our everyday practices and administration management.

v. Have access to ICT whenever and wherever it is beneficial to learning, both in and out of school. At School we want ICT to underpin our commitment to preparing the children today to be lifelong learners in the world of tomorrow.

vi. ICT will be dedicated to supporting the objectives of the institution; improving the quality of the services that it provides; supporting staff and maintaining a high level of satisfaction in the delivery of these services.

ICT Strategy

(a) SWOT: Towards developing an ICT strategy, you need to conduct a SWOT analysis of the ICT issues in the institution. The SWOT analysis helps to answer the first key planning question, where are we now? It also helps you to identify the areas that need to be changed in order to implement your institution's ICT vision in a sustainable way.

The SWOT analysis can be facilitated by anyone: by you as the education manager, by the management team or by a group of teachers to whom you could delegate the task. However, it is most important that the process is done collaboratively, with all key stakeholders participating.

(b) Identify key areas of change: Based on the SWOT analysis, you will be able to identify key areas for change. It is not wise to undertake change in too many areas at once as it may be difficult to find all the resources needed to accomplish the change, such as time and money (remember, apart from physical resources such as money, you also need to budget for the time spent on managing the change process). It is therefore necessary to prioritise a few key issues to work on.

- The key issues you should prioritize are:
- Be in line with your ICT vision;
- Build on your strengths and opportunities;
- Address the main weaknesses and deal with the threats
- Some questions to bear in mind when choosing priority areas

- Choosing priorities may be more difficult than you think. You will need to answer difficult questions, such as the following:
  - What resources are available?
  - Where should the emphasis be in the allocation of resources?
  - What should be done now?
  - What should be done later?
  - And what should not be done at all?
  - What can be done now?
- After you have prioritized the few key issues to work on, develop ICT integration strategies that are SMART (Smart, Measurable, Achievable, Realistic and Time bound).

(**c**) **Action Plan:** Finally, draw up a detailed action plan to implement the process towards achieving the goals you have identified. In an action plan you must be able to answer the following questions: Who is supposed to do what? By what time and for what reason?

Activity

By aid of a table explain how ICT could support instructional supervision through facilitating decision making process, planning, organizing, communicating, influencing, coordinating and evaluating.

Institutional Websites

This section provides you with basic guidelines for developing institutional websites.

i. **Web design:** Education institutions websites should be developed using a Content Management System (CMS). The CMS shall guide design and structure of the website. The design shall have consistent layout to aid in navigation and incorporate a help facility. It is recommended that a pre-designed website template is used to establish a visual identity and apply it throughout the website.

ii. **Elements of a website:** These include:- - title of the web page - URL of the page shown at the browsers address box - information on the page - text, graphics and other media types - style of the page, font, color, background, visual elements - layout of the page, title, headings, tables, frames, navigational tools, footers - links to related resources

iii. **Posting information:** Education institutions websites are required to post information that promotes the institution; commercial banner advertisements, personal information and politically partisan content are not allowed. However, sponsors and partners can be acknowledged on the website. Banners that promote and link to other government agencies are permissible, provided that no fees are charged in placing such banners.

iii. **Accessibility:** Government websites should be accessible to a wider range of people with disabilities, including blindness and low vision, deafness and hearing loss, learning disabilities, cognitive limitations, limited movement, speech disabilities, photosensitivity and any combinations of these. Compliance with this standard should enable users with disabilities to have access to and use of information and data that is comparable to that provided to others.

Guidelines for developing institutional websites

i. Ensure that users using assistive devices can complete and submit online forms.

ii. Ensure that all information conveyed in colour is also available without colour

iii. To aid those using assistive technologies, provide a means for users to skip repetitive navigation links

iv. Provide a text equivalent for every non-text element that conveys information

v. Applets, plug-ins and other software can problems for people using assistive technologies and should be thoroughly tested for accessibility

vi. Provide text-only pages with equivalent information and functionality if compliance with accessibility provisions cannot be accomplished in any other way.

vii. To ensure accessibility, provide equivalent alternatives for multimedia elements that are synchronized

viii. Design Web pages that do not have flashing lights/banners and should not cause screen to flicker.

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- In this unit, we have looked at Four-in-Balance Model for implementation of ICT integration in schools and the role of the head of institution.
- We have also looked at ICT Integration in various functions of the school such as communication, procurement, management of learning and data management.
- We have learnt about different types of data bases in the education sector such as TMIS and NEMIS.
- In addition, we have looked at the role of the HOI in the change process such as development of an institutional ICT policy.
- We have concluded by looking at institutional websites and how they can be used effectively.