Course: Computers in Education (8620)
Semester: Spring, 2021
ASSIGNMENT No. 2

Q.1 there may be some disadvantages of teacher managed test construction over computer managed test construction. Discuss.

1. Introduction• Testing is generally concerned with turning performance into numbers • Baxten, 1998• 13% of students who fail in class are caused by faulty test questions • World watch- The Philadelphia trumpet, 2005• It is estimated that 90% of the testing items are out of quality • Wilen WW (1992)• The evaluation of pupils progress is a major aspect of teachers job • (Orlando & Antario, 1995)

2. Different types of tests• Limited choice questions – MC, T/F, matching type• Open-ended questions – Short answer, essay• Performance testing – OSCE, OSPE• Action oriented testing

3. Process of test administrationStatement Content Table Item of goals outline specification selection Composition Development of of Item construction answer sheet instructions Construction of Test Test answer key administration revision

4. Characteristics of good test ConsistencReliability Utility Validity y How well a testUniformi Free from Cost & measure ty in extraneo time what itmeasure us source effective supposed ment of errors to measure

5. A test construction should intend to answer;? What kind of test is to be made? What is the precise purpose? What are the abilities are to be tested? How detailed and how accurate the results must be? What constraints are set by unavailability of expertise, facilities, time of construction, administration & scoring? Who will take the test? What is the scope of the test

6. Principles of test construction1. Measure all instructional objectives – Objectives that are communicated and imparted to the students – Designed as an operational control to guide the learning sequences and experiences – Harmonious to the teachers instructional objectives2. Cover all learning tasks – Measures the representative part of learning task3. Appropriate testing strategies or items – Items which appraise the specific learning outcome – Measurements or tests based on the domains of learning

7. 4. Make test valid & reliable – Reliable when it produce dependant, consistent, and accurate scores – Valid when it measures what it purports to measure – Test which are written clearly and unambiguous are reliable – Tests with fairly more items are reliable than tests with less items – Tests which are well planned, covers wide objectives, & are well executed are more valid

8. 5. Use test to improve learning – Tests are not only an assessment but also it is a learning experience – Going over the test items may help teachers to reattach missed items – Discussion and clarification over the right choice gives further learning – Further guidance & modification in teaching measures enabled through the revision of test6. Norm referenced & criterion referenced tests – Norm referenced: higher & abstract level of cognitive domain – Criterion referenced: lower & concrete levels of learning

9. Planning for a test1. Outline the learning objectives or major concepts to be covered by the test – Test should be representative of objectives and materials covered – Major students complaint: test don’t fairly cover the

material that was supposed to be canvassed on the test2. Create a test blue print3. Create questions based on blueprint

10. 4. For each, check on the blueprint (3-4 alternate questions on the same idea/ objective should be made)5. Organize questions on item type6. Eliminate similar questions7. Re-read, and check them from the student stand- point8. Organize questions logically9. Check the time in completion by teacher-self and then multiplying it with 4 depending on the level of students10. Analyze the results/ item analysis

11. Process of Test Construction

12. 1.Preliminary considerationsa) Specify test purposes, & describe the domain of content &/or behavior of interestb) Specify the group of examinees (age, gender, socio-economic background etc)c) Determine the time & financial resources available for constructing & validating the testd) Identify & select qualified staff memberse) Specify the initial estimate length of the test (time in developing, validating & completion by the students

13. 2.Review of content domain/behaviorsa) Review the descriptions of the content standard or objectives to determine the acceptability for inclusion in the testb) Select the final group of objectives (i.e. finalize the content standard)c) Prepare the item specification for each objective & review the completeness, clarity, accuracy & practicability

14. 3.Item/task writing & preparation of scoring rubricsa) Draft a sufficient number of items and or tasks for field testingb) Carry out items/task editing, and review scoring rubric

15. 4.Assessment of content validitya) Identify a pool of judges & measurement specialtiesb) Review the test items & tasks to determine their match to the objectives, their representativeness, & freedom from stereotyping, & potential biasesc) Review the test items and/or tasks to determine their technical adequacy

16. 5.Revision of test tasks/itemsa) Based upon data from step 4b & 4c; revise the test items/tasks or delete themb) Write additional test items/tasks & repeat the step 4

17. 6. Field test administrationa) Organize the test items/ tasks into forms for field testingb) Administer test forms to appropriately chosen groups of examineesc) Conduct item analysis & item bias studies {“studies to identify differentially functioning test items”}d) If statistical thinking or equating of forms is needed

18. 7. Revision to test item/ task• Revise/ delete them, using the result from step 6c.• Check the scoring rubrics for the performance task being field tested

19. 8. Test assembly• Determine the test length, the number of forms needed, & the no. of items/tasks per objective• Select the item from the available pool of valid test material• Prepare test directions, practice questions, test booklet layout, scoring keys, answer sheets & so on.• Specify modifications to instructions, medium of presentation, or examinees response, and time requirement for finishing the items

20. 9. Selection of performance standarda) Performance standards are needed to accomplish the test purposeb) Determine the perform standardc) Initiate & document the performance standardd) Identify the alternative test score interpretation for examinees requiring alternative administration or other modalities

21. 10. Pilot test (if possible)a) Design the test administration to collect score reliability & validity informationb) Administer test form(s) to appropriately chosen groups of examineesc) Identify & evaluate alternative administration/other modification, to meet individual specific needs that may affect validity and reliability of the test or forms of the testd) Evaluate the test administration procedures, test items, and score reliability and validitye) Make final revisions to the test forms of the test based on the available data.

22. 11. Preparation of manualsa) Prepare test administrators manual12. Additional technical data collectiona) Conduct reliability & validity investigations on a continuing basis

23. Item analysis• Shortening or lengthening an existing test items is done through item analysis• Validity & reliability of any test depends on the characteristics of its item• Two types 1. Qualitative analysis 2. Quantitative analysis

24. Qualitative item analysis• Content validity – Content & form of items – Expert opinion• Effective item formulation Quantitative item analysis• Item difficulty• Item discrimination

25. Further reading1. Bharat Singh (2006), Educational measurement and evaluation system. New Delhi, Anmol Publishers, 256-2822. Sankaranarayan & Sindhu (2008), Learning and teaching in Nursing, Calicut, Brainfill, 204-14

26. • Item difficulty: The proportion of examinees who get that item correct.

Q. 2 Elaborate possible means to train in-service teachers for the use of computers.

Nowadays teachers have to make use of desktop PCs, laptop PCs, and even mobile devices like tablets while carrying out their core duties. Also, these professionals must be knowledgeable of computer related technologies. This, of course, includes the world wide web, email, desktop conferencing, video conferencing to name but a few among other skills for resume. As a skilled educator, you will have to aim for uncommon excellence and proficiency in this computer oriented era. Well here are some top 8 computer skills for every teacher to master that can be regarded as been mandatory.

1. Word Processing Skills

Word processors are certainly some of the most ancient applications all modern computers now feature. As a teacher, you will have to be skillful in utilizing the best word processors, which are currently available in the market. This will let you undertake and ultimately complete all your written communications with both your colleagues and students in a markedly time efficient manner. You will have to learn just how to check spelling, create tables, and even insert hyperlinks into your word documents. All in all, you will need to be in an excellent position of creating lengthy and well-formatted documents.

2. Spreadsheet Skills

An excellent mastery of spreadsheets applications is also among the top ones in 21st century skills list for educators. Such an invaluable software will let you conduct some of the most pertinent aspects of your teaching duties in a convenient and highly methodological way. Some of the most notable of these duties are compiling grades for your students and even masterfully charting any critical data you might wish to pass to them.

3. Database Management Skills

As a teacher, you will have to learn just how you can use databases. This includes been able to create database tables, storing, and retrieving data from those tables. While also knowing just how you can create the right queries for the information found in your institute's databases.

4. Electronic Presentation Skills

Electronic presentation applications are, in essence, part and parcel of an educator's various teaching duties. As such, you will have to find a way to master the art of creating electronic presentations for your classes. While more to the point, just how you can showcase them to your students and even colleagues and superiors.

5. Internet Navigation Skills

As you might probably be aware the world wide web is a great repository of all manner of information, which can definitely make your life as a teacher much more easier. Generally speaking, you will have to find a good way of been able to efficiently navigate the internet for the exact data or teaching resources you stand in need of. You will also have to be well conversant with the basics of advanced search, including the utilization of Boolean operators within your search engine queries.

6. Email Management Skills

Email is now the most preferred means of written communication for most of us, in both our professional and personal lives. As an educator, you will have to be highly skilled in sending and receiving email messages and the various applications you need to utilize. You will also be required to be conversant with the variety of features and functionalities that these computer applications boast of. This includes mass mailing, link insertions, and even the utilization of email attachments in your communications with both your colleagues and students.

7. Networking Skills

Teachers who wish to remain relevant in their given fields must also find the necessary time to fully grasp the basics of computer networking. If applicable, they should also try their level best to totally understand just how their institution's computer network functions and exactly how it can be of benefit to them in their professional duties.

8. Touch Typing

Finally, touch typing is yet another essential computer skill, which all 21st century educators must take time to master. This particular skill lets you significantly improve typing speed as well as accuracy. This is brought about by simply relying on your motor reflexes as opposed to sight while typing. By mastering touch typing, you will find it infinitely easier to draft highly detailed and accurate texts in a quicker manner than you previously did. You will also learn how to integrate the right typing 'best practices' to prevent injuries and fatigue. This includes using the ideal typing posture and the right finger placement on your keyboard.

Q. 3 Elaborate the potential of new educational resources in adult education.

Adult education, distinct from child education, is a practice in which adults engage in systematic and sustained self-educating activities in order to gain new forms of knowledge, skills, attitudes, or values.[1] It can mean any form of learning adults engage in beyond traditional schooling, encompassing basic literacy to personal fulfillment as a lifelong learner.[2]

In particular, adult education reflects a specific philosophy about learning and teaching based on the assumption that adults can and want to learn, that they are able and willing to take responsibility for the learning, and that the learning itself should respond to their needs.[3]

Driven by what one needs or wants to learn, the available opportunities, and the manner in which one learns, adult learning is affected by demographics, globalization and technology.[4] The learning happens in many ways and in many contexts just as all adults' lives differ.[5] Adult learning can be in any of the three contexts, i.e.:

- Formal – Structured learning that typically takes place in an education or training institution, usually with a set curriculum and carries credentials;
- Non-formal – Learning that is organized by educational institutions but non credential. Non-formal learning opportunities may be provided in the workplace and through the activities of civil society organizations and groups;
- Informal education – Learning that goes on all the time, resulting from daily life activities related to work, family, community or leisure (e.g. community baking class).[6][7]

The World Bank's 2019 World Development Report on The Changing Nature of Work[8] argues that adult learning is an important channel to help readjust workers' skills to fit in the future of work and suggests ways to improve its effectiveness.

Educating adults differs from educating children in several ways given that adults have accumulated knowledge and work experience which can add to the learning experience.[9] Most adult education is voluntary, therefore, the participants are generally self-motivated, unless required to participate, by an employer.[10][11] The practice of adult education is referred to as andragogy to distinguish it from the traditional school-based education for children pedagogy. Unlike children, adults are seen as more self-directed rather than relying on others for help.

Adults are mature and therefore have knowledge and have gained life experiences which provide them a foundation of learning. An adult's readiness to learn is linked to their need to have the information. Their orientation to learn is problem-centered rather than subject-centered. Their motivation to learn is internal.[11]

Adults frequently apply their knowledge in a practical fashion to learn effectively. They must have a reasonable expectation that the knowledge they gain will help them further their goals. For example, during the 1990s, many adults, including mostly office workers, enrolled in computer training courses. These courses would teach basic use of the operating system or specific application software. Because the abstractions governing the user's interactions with a PC were so new, many people who had been working white-collar jobs for ten years or more eventually took such training courses, either at their own whim (to gain computer skills and thus earn higher pay) or at the behest of their managers.

The purpose of adult education in the form of college or university is distinct. In these institutions, the aim is typically related to personal growth and development as well as occupation and career preparedness. Another goal might be to not only sustain the democratic society, but to even challenge and improve its social structure.[1]

A common problem in adult education in the US is the lack of professional development opportunities for adult educators. Most adult educators come from other professions and are not well trained to deal with adult learning issues. Most of the positions available in this field are only part-time without any benefits or stability since they are usually funded by government grants that might last for only a couple of years.

However, in some countries, which contain the advanced systems of adult education, professional development is available through post-secondary institutions and provide professional development through their ministry of education or school boards and through nongovernmental organizations.[12] In addition, there are programs about adult education for existing and aspiring practitioners offered, at various academic levels, by universities, colleges, and professional organizations.[13]

The primary purpose of adult education is to provide a second chance for those who are poor in society or who have lost access to education for other reasons in order to achieve social justice and equal access to education.[14] Therefore, adult education is often a social policy of the government. Continuing education can help adults maintain certifications, fulfill job requirements and stay up to date on new developments in their field. Also, the purpose of adult education can be vocational, social, recreational or for self-development.[15] One of its goals may be to help adult learners satisfy their personal needs and achieve their professional goals.[16] With the development of economy and the progress of society, the requirement of human quality has been raised. In the 1960s, the proposition of "lifelong education" was put forward, which led to the change of contemporary educational concepts.[17] Therefore, its ultimate goal might be to achieve human fulfillment. The goal might also be to achieve an institution's needs. For example, this might include improving its operational effectiveness and productivity. A larger scale goal of adult education may be the growth of society by enabling its citizens to keep up with societal change and maintain good social order.[1]

One fast-growing sector of adult education is English for Speakers of Other Languages (ESOL), also referred to as English as a Second Language (ESL) or English Language Learners (ELL).[18] These courses are key in assisting immigrants with not only the acquisition of the English language, but the acclimation process to the culture of the United States as well as other English speaking countries like Canada, Australia, and New Zealand.[19]

The principles of andragogy flow directly from an understanding of the characteristics of adults as learners and can be recognized when we understand the characteristics of adults, and see the way those characteristics influence how adults learn best.[22] Teachers who follow the principles of andragogy when choosing materials for training and when designing program delivery, find that their learners progress more quickly, and are more successful in reaching their goals.[22]

Malcolm Knowles introduces andragogy as the central theory of adult learning in the 1970s, defining andragogy as “the art and science of helping adults learn.[14] Knowles's andragogy theory helps adults use their experiences to create new learning from previous understandings. Knowles believes that preparation for learning is related to the relevance of learning to adult life, and that they bring an ever-expanding experience that can serve as a learning resource.[17]

Andragogy proposes the following six main assumptions about adults as learners:

1) As a person matures, his or her self-concept moves from that of a dependent personality toward one of a self-directing human being；

2) An adult has rich experiences that accumulated through family responsibilities, work-related activities, and prior education；

3) The readiness of an adult to learn is closely connected to the developmental tasks of his or her social role；

4) As a person matures, he or she refers to immediacy application of knowledge rather than the future application of knowledge which used to have occurred in his or her childhood；

5) An adult is motivated to involve in any form of learning based on his or her internal drives rather than external ones；

6) Adults need to know why they need to learn something.[14]

Further, Knowles suggests that these characteristics should be taken into consideration when designing programs for adults as well as facilitating their learning process.[14]

Also, Knowles proposes a model of self-directed learning.[17] In Knowles's view, self-directed learning is a process. Individuals will actively diagnose their learning needs, propose learning goals, select and implement appropriate learning strategies, and evaluate learning results.[17] This learning model makes them think that they are the masters of learning, thus encouraging the confidence of adult learners to learn actively.

Previous research findings suggest that as adults get older, they are less likely to participate in AE (Adult Education). The International Adult Literacy Survey (IALS), nationally representative samples of adults aged 16–65 in 23 OECD countries, has found that older age groups had lower participation rates than younger age groups [30] Particularly, adults aged 16 to 25 were on average about three times more likely to participate than older adults aged 56 to 65. Eurobarometer survey, national representative samples of adult aged 15 to 65 of European Union countries, also revealed that adults in the three youngest age groups examined (ages 15–24, ages 25–39, and ages 40–54) were more likely to participate in AE than age group of 55+.[31] Moreover, the Eurobarometer survey shows that participation rate declined from younger to older adults. Participation rate of European countries was 59% for adults aged 15–24. The rate began to decline 38% for adults aged 25–39 and it also fell down to 31% for adults aged 40–54. Participation rate was 17% for adults above 55.[31] Reason of why older adults' participation declined relates mainly to lack of promotion and support. When people get old, their chances to take promotion for any AE programs are reduced. In many OECD and European countries,

employers often support their workers to attend in AE programs since they consider that workers with higher-educated and skilled are crucial indicators of development for companies.[32] Therefore, older adults cannot get promotions from their employers because of the gradual loss of seniority, learning ability and performance.[33] Since older adults are rarely offered a promotion from their employers, and the cost would be an obstacle for participation, they are unable to take the courses even if they wanted to take part in programmes. Moreover, lack of motivation and unavailability of learning opportunities could be additional reasons of older adults' low-participation).[33]

Findings of previous research are quite mixed when participation in AE comes to gender. According to the IALS, there is no a statistically significant difference between men and women in AE.[30] However, the average participation rate of men was a bit higher than women.[30] It was 38.7% for men and 37.9% for women. The Eurobarometer survey shows a similar result to the IALS data. Specifically the average participation of males was 35%; while, it was 30% for females.[31] Women's low participation is mainly resulted from family burdens and lack of financial support.[33] However, an opposite tendency can be observed in the US. A study based on National Household Education Survey [NCES] in 2001 revealed that although gender difference did not exist much, females were more likely to participate in AE than males in the US.[31] The participation rate was 49% for women and 43% for men.[31]

Educational attainment is determined as the most important factor in predicting participation in AE. It is known that those with higher levels of educational attainment participate more in AE programs. The IALS showed that there was a clear relationship between previous educational attainment and participation in AE.[30] The data found those with low educational background were less likely to participate in OECD countries. Specifically, the participation rate was 57.6% for adults who completed college or university education; while, it was 15.5% for adults who did not complete high school.[30] The Eurobarometer survey also showed that 87% of low-educated people belonged to the non-participant group.[31] Reason of low or non-participation of the less-educated can be explained from perspectives of individual and employers.[33] Individual point illustrated that low self-confidence regarding the learning, which mainly derived from previous bad educational experiences, could be a major obstacle for the less-educated. Apart from low self-confidence, those less-educated might not perceive their need of participation or might actually not have a need to participate. Yet, employers' view was apparent that they tended to support high-educated because they were more trainable than the low-educated. Therefore, the participation of the less-educated was low since they could not get promotions from their employers.

At last, adults who come from a better socio-economic background tend to participate more in AE programs. The OECD data showed that higher the parent' educational level could produce the higher participation rate.[33]

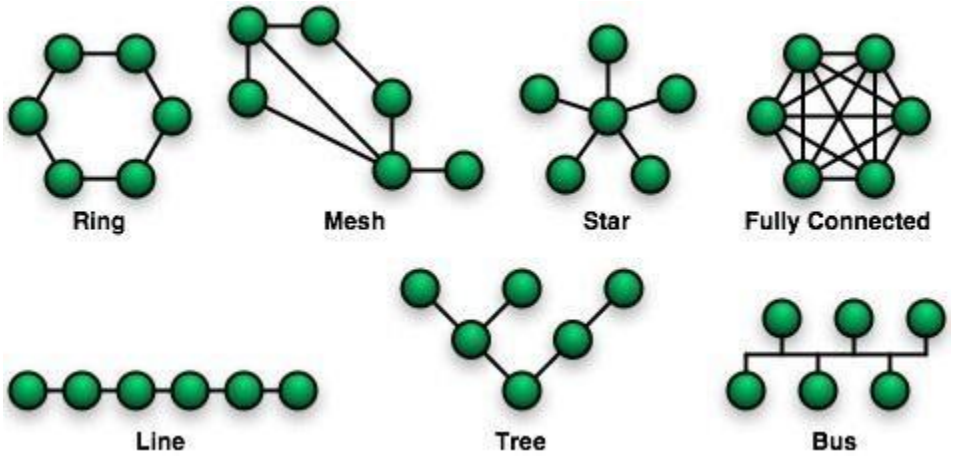
Summarizing above findings, people, those are young and men, with high levels of education, high-status of jobs are more likely to take part in any form of education and training. On the contrary, typical non-participants tend to be women, older, less educated, and coming from poor socio-economic backgrounds. In addition,

less-skilled, unemployed, immigrants, language minorities, and rural residents are less likely to participate in AE programmes.

Q. 4 Descirbe store network topology, duscuss its advantages and disadvantages.

A network topology refers to the way in which nodes in a network are connected to one another. The network structure defines how they communicate. Each kind of arrangement of the network nodes has its own advantages and disadvantages. Here we tell you about the same.

Network Topologies



Network topologies describe the ways in which the elements of a network are connected. They describe the physical and logical arrangement of network nodes.

Let us look at the advantages different network topologies offer, and their shortfalls.

Bus Topology

Advantages of Bus Topology

1. It is easy to set up, handle, and implement.
2. It is best-suited for small networks.
3. It costs very less.

Disadvantages of Bus Topology

1. The cable length is limited. This limits the number of network nodes that can be connected.
2. This network topology can perform well only for a limited number of nodes. When the number of devices connected to the bus increases, the efficiency decreases.
3. It is suitable for networks with low traffic. High traffic increases load on the bus, and the network efficiency drops.
4. It is heavily dependent on the central bus. A fault in the bus leads to network failure.
5. It is not easy to isolate faults in the network nodes.
6. Each device on the network “sees” all the data being transmitted, thus posing a security risk.

Ring Topology

Advantages of Ring Topology

1. The data being transmitted between two nodes passes through all the intermediate nodes. A central server is not required for the management of this topology.
2. The traffic is unidirectional and the data transmission is high-speed.
3. In comparison to a bus, a ring is better at handling load.
4. The adding or removing of network nodes is easy, as the process requires changing only two connections.
5. The configuration makes it easy to identify faults in network nodes.
6. In this topology, each node has the opportunity to transmit data. Thus, it is a very organized network topology.
7. It is less costly than a star topology.

Disadvantages of Ring Topology

1. The failure of a single node in the network can cause the entire network to fail.
2. The movement or changes made to network nodes affect the entire network's performance.
3. Data sent from one node to another has to pass through all the intermediate nodes. This makes the transmission slower in comparison to that in a star topology. The transmission speed drops with an increase in the number of nodes.
4. There is heavy dependency on the wire connecting the network nodes in the ring.

Mesh Topology

Advantages of Mesh Topology

1. The arrangement of the network nodes is such that it is possible to transmit data from one node to many other nodes at the same time.
2. The failure of a single node does not cause the entire network to fail as there are alternate paths for data transmission.
3. It can handle heavy traffic, as there are dedicated paths between any two network nodes.
4. Point-to-point contact between every pair of nodes, makes it easy to identify faults.

Disadvantages of Mesh Topology

1. The arrangement wherein every network node is connected to every other node of the network, many connections serve no major purpose. This leads to redundancy of many network connections.
2. A lot of cabling is required. Thus, the costs incurred in setup and maintenance are high.
3. Owing to its complexity, the administration of a mesh network is difficult.

Star Topology

Advantages of Star Topology

1. Due to its centralized nature, the topology offers simplicity of operation.

2. It also achieves isolation of each device in the network.
3. Adding or removing network nodes is easy, and can be done without affecting the entire network.
4. Due to the centralized nature, it is easy to detect faults in the network devices.
5. As the analysis of traffic is easy, the topology poses lesser security risk.
6. Data packets do not have to pass through many nodes, like in the case of a ring network. Thus, with the use of a high-capacity central hub, traffic load can be handled at fairly decent speeds.

Disadvantages of Star Topology

1. Network operation depends on the functioning of the central hub. Hence, central hub failure leads to failure of the entire network.
2. Also, the number of nodes that can be added, depends on the capacity of the central hub.
3. The setup cost is quite high.

Tree Topology

Imagine a hierarchy of network nodes, with the root node serving client nodes, that in turn serve other lower-level nodes.

The top-level node is mostly a mainframe computer while other nodes in the hierarchy are mini or microcomputers.

In this arrangement, the node at each level could be forming a star network with the nodes it serves. In this case, the structure combines star and bus topologies and inherits their advantages and disadvantages.

Advantages of Tree Topology

1. The tree topology is useful in cases where a star or bus cannot be implemented individually. It is most-suited in networking multiple departments of a university or corporation, where each unit (star segment) functions separately, and is also connected with the main node (root node).
2. The advantages of centralization that are achieved in a star topology are inherited by the individual star segments in a tree network.
3. Each star segment gets a dedicated link from the central bus. Thus, failing of one segment does not affect the rest of the network.
4. Fault identification is easy.
5. The network can be expanded by the addition of secondary nodes. Thus, scalability is achieved.

Disadvantages of Tree Topology

1. As multiple segments are connected to a central bus, the network depends heavily on the bus. Its failure affects the entire network.
2. Owing to its size and complexity, maintenance is not easy and costs are high. Also, configuration is difficult in comparison to that in other topologies.
3. Though it is scalable, the number of nodes that can be added depends on the capacity of the central bus and on the cable type.

Hybrid Topology

A hybrid topology combines two or more topologies and is meant to reap their advantages.

Obviously, the advantages and disadvantages of a hybrid topology are a combination of the merits and demerits of the topologies used to structure it.

Q. 5 Enlist and discuss characteristics of an effective software.

As we know that software is any computer program which can also be defined as a set of instructions which are responsible for guiding the computer to perform certain tasks. The following are the **characteristics of software**:

1. Software does not wear out
2. Software is not manufacture
3. Usability of Software
4. Reusability of components
5. Flexibility of software
6. Maintainability of software
7. Portability of software
8. Reliability of Software

Now let us elaborate each of them...

1. **Software does not wear out**:

   Different things like clothes, shoes, ornaments do wear out after some time. But, software once created never wears out. It can be used for as long as needed and in case of need for any updating, required changes can be made in the same software and then it can be used further with updated features.

2. **Software is not manufactured**:

   Software is not manufactured but is developed. So, it does not require any raw material for its development.

3. **Usability of Software**:

   The usability of the software is the simplicity of the software in terms of the user. The easier the software is to use for the user, the more is the usability of the software as more number of people will now be able to use it and also due to the ease will use it more willingly.

4. **Reusability of components**:

   As the software never wears out, neither do its components, i.e. code segments. So, if any particular segment of code is required in some other software, we can reuse the existing code form the software in which it is already present. This reduced our work and also saves time and money.

5. **Flexibility of software**:

   A software is flexible. What this means is that we can make necessary changes in our software in the future according to the need of that time and then can use the same software then also.

6. **Maintainability of software**:

   Every software is maintainable. This means that if any errors or bugs appear in the software, then they can be fixed.

7. **Portability of software**:

   Portability of the software means that we can transfer our software from one platform to another that too with ease. Due to this, the sharing of the software among the developers and other members can be done flexibly.

8. **Reliability of Software**:

   This is the ability of the software to provide the desired functionalities under every condition. This means that our software should work properly in each condition.