

# Interactive Digital Technology Skills Required for Virtual Teaching and Learning of Business Education Courses in Tertiary Institutions in Abia State, Nigeria

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## Abstract

## Original Research Article

The study examined interactive digital technology skills required for virtual teaching and learning of Business Education courses in Tertiary Institutions in Abia State, Nigeria. Two research questions and two null hypotheses guided the study. The study was a descriptive survey design. The population of the study consisted of 26 lecturers from Tertiary Institutions in Abia State, Nigeria offering Business Education courses. The entire population was used because it was manageable. The instrument for data collection was a structured questionnaire developed by the researchers. Data collected were analyzed using mean, standard deviation, and t-test statistics. The mean and standard deviation were used to answer the research questions while the hypotheses were tested using the t-test statistics at 0.05 level of significance. The findings revealed among others that Business Educators requires interactive digital skills such as abilities to use life chat in interacting with others and email sending correspondence. Also, Business Educators requires interactive digital content creation skills such as abilities to prepare course notes in CD plates and create courses from external readymade library contents among others. The findings further revealed that there is no significant difference between the mean responses of male and female Business Educators on interactive communication skills and content creation skills among others required for teaching and learning of Business Education courses in Tertiary Institutions in Abia State, Nigeria. Based on the findings of the study, it was recommended among others that Business Educators should acquire relevant interactive digital communication and content creation skills in order to remain relevant in the current technological changes.

**Keywords:** Interactive, digital Technology skills, Business Educators and Virtual teaching and Learning.

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## INTRODUCTION

Digital technology has led to a tremendous development in all fields of endeavour especially in education industry. It has changed the way people access information as well as human interactions and communication. According to Ademiluyi and Akande (2023), digital technology has transformed various jobs, thus impacting positively on the economy and society.

Digital technology signifies wide range of technologies, tools, services and applications using various types of hardware and software. Zakka, Bewaran and Moris (2021) noted that digital technology facilitates services or activities by electronic means to create, store, process, transmit and display information. For Business Educators in Tertiary Institutions in Nigeria to remain

relevant in this digital age, they require interactive digital technology skills.

A skill is the art of possessing the ability to power, authority, or competency to do the task required of an individual on the job. Tajudeen (2014) defines skill as a special ability or expertise to do something well, which is by learning and having undergone a particular training exercise. So, when we talk about digital skills, they are all set of skills needed to effectively and efficiently perform office tasks using new technologies in the digital environment (Okoji, Nwankwo, Anene and Olorunfemi 2020). According to Heinz (2020), digital skills are skills needed to use digital devices, communication application and networks to access and manage information from basic online searching to

specialist programming and development. In the view of Lyashenko (2016), it is a continuum of skills to communicate, collaborate and solve problems for effective and creative self-fulfillment in life, learning, work, and social activities.

Digital technology skills on the other hand involve the ability, confident, critical thinking and responsible use of and engagement with digital technologies for learning at work and for participation in society. It includes information data literacy, communication and collaboration, digital content creation including programming safety, digital well-being and competencies related to cyber security and problem solving (UNESCO, 2020). These digital technology tools include computers (desktop and laptops), smart phones, scanners, digital photocopiers, internet and audio/video conferencing facilities among others. Offili (2017) opine that a digitally skilled employee that wants a decent work in the office should have the skill to use computer both desktops and laptops and other electronic devices to complete office tasks.

Digital technology skills constitute one of the five fundamental pillars of the digital economy for Africa. The other foundational pillars are digital technology infrastructure, digital technology platform, digital technology financial services and digital technology entrepreneurship (World Bank Group, 2020). Digital technology skills are very important in the development of individual and the nation as it supports effective communication, increase efficiency, enables creativity, improves security, and evaluate information among others. These skills can improve one's confidence to use technology for work, learning and daily life activities. Hirsch, (2016) noted that digital skills include ability to use various devices for tasks, find information on the internet, communicate socially and professionally using e-mail and social media platform, bank, shop, access services or apply for jobs online among others. The above definitions buttress various relevance of digital technology in Business Education.

Business Educators requires digital technology skills for virtual teaching and learning of Business Education courses in Tertiary Institutions in Abia State. Business Educators are those who have undergone training in Business Teacher Education programme with relevant certification to teach business courses at the secondary school and post-secondary school level. According to Aliyu in Amina, Yusuf, and Suleiman (2023), to train individuals as Business Educator, you need highly proficient, dedicated and enthusiastic students under the management and supervision of intelligent and shrewd administrator. To qualify as a Business Educator, a teacher needs to have at least, Nigerian certificate in Education (Business Education), a Bachelor's degree in Business Education and a Doctoral degree in Business Education (Ph.D) is an added

advantage which will put the beneficiary on the way of becoming an authority in Business Education.

Business Education is unit of vocational education which involves acquisition of skills, knowledge and competences which makes the recipient proficient in business. According to Umoru and Jimoh (2020), Business Education is a conglomerate of courses that is concerned with the acquisition, development, and inculcation of the proper values for the survival of the individual and the society.

It helps individuals to acquire saleable skills that will enable them fit into various business organizations or be self-employed in the absence of paid employment hence Nwokike and Ezenwafor (2021) asserted that Business Education is a skill-oriented programme directed towards equipping the recipients with relevant skills for success in paid or self-employment. Similarly, Ubulom, and Dambo (2016) maintained that Business Education is an aspect of the educational programme designed to provide an individual with the needed business and vocational attitudes, understanding, knowledge and skills which contributes greatly to the development of youths through its available options such as accounting, management, marketing, office management and technology among others. These available options can be acquired through effective teaching and learning. Business Educators will benefit immensely and can keep abreast with other sectors if they can actively promote digital technology use in teaching and learning of Business Education.

Teaching and learning form the core of the educational system. According to Duktur (2015), teaching is an active and constructive process in which the teacher assumes the role of a strategic planner, making decisions about the content and the appropriate instructional strategies. Akpan and Farayola () view it as the apparent modification of a person's behaviour through his activities and experiences, so that his knowledge, skills, and attitudes including modes of adjustments towards his environment are changed more or less permanently. Days are gone when teaching and learning were only done in the four walls of the classroom. It can be carried out in virtual classroom.

Virtual teaching and learning is a learning experience that is enhanced through utilizing computer and/or the internet both outside and inside the facilities of the educational organization. Virtual teaching and learning most commonly take place in an online environment. Singh and Thurman (2019) noted that teaching activities are carried out online whereby the teacher and the learner are physically separated in terms of place, time or both. In the view of Gordon (2014), virtual education is an instruction in a learning environment where the teacher and the students are separated by time or space, or both, and the teacher provides course content through course management

application, multimedia resources, the internet, video conferencing etc. Students receive the course content and communicated with the teacher via the same technologies.

Virtual teaching and learning could be either synchronous or asynchronous according to Littlefield (2018). According to the author, synchronous learning means that two or more learners are connected simultaneously or in real-time using the same platform or communication channel like in video conference while asynchronous learning means that learners access the same materials at different times and locations just like using an e-learning website at different points. With the introduction of all these new technologies, there is need for the Business Educator to be conversant with them and be able to apply them in teaching and learning of Business Education courses. To this effect, Ekwue, Anyeabunam and Alfa (2016) opine that the increased use of new technologies in Business Education makes teaching and learning increasingly flexible, multi-tasking and performance based, hence the need for Business Educators to acquire the necessary skills needed to be able to teach effectively using the interactive digital communication skills and content creation skills.

Interactive digital communication skill according to Ezeh (2023) is all the modern system for processing information and communication in data, text, image, and voice. It embraces all the technologies that support activities involving the creation of data, manipulation and communication of information including applications. Interactive digital communication skill is the ability to convey or share ideas and feelings effectively. One needs good communication skills and must be able to work well with others (Eze, 2023). Digital communication skills involve an organization's online communication efforts. Most organization today use a wide range of digital communication channels from their website mobile chat, blogs to connect with current and prospective customers, employees, and other stakeholders. Such communication tools include e-mail, website, blogs, social media, live chat, chat bots, video chats, web calling etc.

Interactive digital Content creation skill involves various activities including maintaining and updating websites, blogging, articles writing, photography, video conferencing, online commentary, social media accounts and editing and distribution of digital media. Content creation skill therefore is the ability to possess specialized skills in writing, editing, photography, film, or other forms of media. Onwubuya *et al* (2022) observed that content creation is essential for molding Business Education students' experiences within the global business context. It has a graphical interface that helps the design of the e-learning materials interface and the design of the text. According to Funda, Levent and Serpil, (2023) more complex learning objects

may be created by using the programming language or scripting language. Content creators often understand how to use computer software to edit and share images and prepare them for publication online, content creators use communication skills to build relationship with their clients and audience. They listen to client directions and ask questions to learn about the goals and plans of an organization. They determine a way to share brand messages with consumers, attract attentions and drive sales. They use communication skills to craft effective messages and share information through their contents.

Interactive technologies are used in educational settings and there are factors that play a major role on them. These include school culture, teacher training and time to practice and prepare materials, teacher confidence and technical support. Also, the classroom setting and quality of equipment matters. In interactive teaching, both teachers and students are central to the process. Teachers are responsible for planning, teaching, and facilitating sequences integrated with technology. Students are responsible for constructing and demonstrating knowledge as well as collaborating with peers to create knowledge. There is no gender bias in acquisition of interactive digital skills among Business Educators. It is a necessary skill for both male and female Business Educators.

Gender has a lot of impact to play in teaching and learning. In teaching and learning process for the children, gender should not be a barrier. Gender is a social creation resulting from biological identities as noted by Nnachi (2011). The World Health Organization (WHO, 2021) maintains that gender is used to describe the characteristics, roles and responsibilities of women and men, boys and girls which are socially constructed. Males and females distinctions in relation to mental and emotional attributes and even their behaviours and role expectations manifest from gender. Boys and girls should have equal and full accesses to all levels of education including the Tertiary Institutions.

Tertiary institution is an institution of higher learning owned and managed by either State or Federal government. Federal Tertiary institutions are institutions managed and controlled by the Federal Government while the State Tertiary Institutions are institutions managed and controlled by the State Government. It is basically at this level of higher institution that these interactive digital technology users specialize in their area of interest. The use of interactive digital technologies for pedagogical delivery has undoubtedly affected teaching, learning and research. Olisa (2014) opined that the integration of these technologies into the school system can help revitalize teachers and students alike. It has the great potentials to support education across curriculum including Business Education curriculum and this provides opportunities for an effective communication between teachers and students

in ways that have not been possible before (Utoware, Ken-Ikidi and Apreala, 2016).

This study is anchored on the Need for Achievement Theory (NAT) by McClland 1965. This theory is closely associated with learning theory because McClland believe that needs are learned or acquired by the kinds of events people experience in their environment and culture. The profounder of the theory found that people who acquire a particular need behave differently from those who do not have. The theory states that there would be relatively greater number of entrepreneurial activities in the society, where the average level of need achievement is relatively high. This theory is relevant to the present study in that when students are taught and are motivated to have high need for achievement in life through acquisition of digital skill, they will be owners of businesses and employers of labour which will lead them to self-actualization.

It is against this backdrop that this study seeks to determine the interactive digital technology skills required for virtual teaching and learning of Business Education courses in Tertiary Institutions in Abia State, Nigeria.

### Statement of the Problem

Interactive digital technology is a tool that facilitates independent learning and gives way to new scenario which favours both individuals and collaborative learning. However, it seems that most institutions in Nigeria have not been able to embrace virtual teaching and learning using interactive digital technologies to the detriment of the students and the society at large. Inability of the Business Educators to equip the students with interactive digital skills may likely result to producing graduates that may not compete globally in the digitalized world. The problem of this study posed as a question is: What are the interactive digital technology skills required by Business Educators for virtual teaching and learning of Business Education courses in Tertiary Institution in Abia State.

### Purpose of the Study

The general purpose of the study was to determine interactive digital technology skills required for virtual teaching and learning of Business Education courses in Tertiary Institutions in Abia State. Specifically, the study sought to determine the:

1. Interactive digital communication skills required for virtual teaching and learning of Business Education courses in tertiary institutions in Abia State.
2. Interactive digital content creation skills required for virtual teaching and learning of Business Education courses in tertiary institutions in Abia State.

### Research Questions

The following research questions guided the study.

1. What are the interactive digital communication skills required for virtual teaching and learning of Business Education courses in Tertiary Institutions?
2. What are the interactive digital content creation skills required for virtual teaching and learning of Business Education courses in tertiary institutions?

### Null Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significant.

**H<sub>01</sub>** : There is no significant difference between the mean responses of male and female

Business Educators on interactive digital communication skills required for virtual teaching and learning of Business Education courses in tertiary institutions.

**H<sub>02</sub>** : There is no significant difference between the mean responses of male and female

Business Educators on interactive digital content creation skills required for virtual teaching and learning of Business Education courses in tertiary institutions.

## METHOD

The study is a descriptive survey research design. The population of the study consists of 26 Business Educators from four Government owned Tertiary Institutions in Abia State offering Business Education programme. No sample and sampling technique was employed because the population was manageable. The instrument for data collection was a structured questionnaire designed by the research after extensive literature review titled "Interactive Digital Technology Skills Required for Virtual Teaching and Learning of Business Education Courses Questionnaire (IDTSRVTLBECQ)". The questionnaire was made up of two sections, A and B. Section A consisted of bio data of the respondents while section B contains 52 items questions which was based on the purpose of the study. Interactive digital technology skills required was structured along a four-point scale of Very High Required (VHR), High Required (HR), Required (R), and Not Required (NR), weighing (4) points, (3) points, (2) points and (1) point respectively. The instrument was validated by experts from the Department of Business and Entrepreneurship Education and Department of Maths and computer Education (Measurement and Evaluation option) all from the Faculty of Education, Enugu State University of Science and Technology, Nigeria. Cronbach Alpha reliability co-efficient was used to determine the reliability index and the result yielded a reliability index of 0.86 and this was considered adequate for the study. Mean and standard deviation were used to answer the research questions while the hypotheses were tested using t-test statistics.

## RESULTS OF THE STUDY

**Research Question one:** What are the interactive digital communication skills required for virtual teaching and

learning of Business Education courses in tertiary institutions in Abia State.

**Table 1: Interactive digital communication skills required for virtual teaching and learning of Business Education courses in Tertiary Institutions in Nigeria**

S/N	Item Statement: Interactive digital communication skills required include abilities to use	X	SD
1	e-mail in sending mails	2.73	.874
2	Websites to provide information	2.73	.827
3	Blogs in sharing ideas	2.38	.898
4	Social media to share knowledge and gain credibility in your area of specialization	2.31	.970
5	Live Chat in interacting with others	3.00	.894
6	Chat bots to stay online always	2.65	.892
7	Video Chat to encourage virtual, face to face communication	2.85	.925
8	Web calling for presentations and remote business	2.15	.925
		<b>2.60</b>	<b>0.7883</b>

Table 2 reveals the interactive digital communication skills required for virtual teaching and learning Business Education courses in Tertiary Institutions in Abia State. Five (5) items reveal mean scores above the criterion mean of 2.50. They are items 1,2,5,6 and 7, while three 3 items: 3,4 and 8 show mean scores below the criterion benchmark. Further, the grand mean of 2.60 shows that Business Educators require digital communication skills such as e-mail sending, websites to provide information, live chat, chat bots and video chats to encourage virtual teaching and learning of

Business Education courses in Tertiary Institutions in Abia State. The low standard deviation of 0.78 shows the homogeneity of the respondents in their responses.

#### Hypothesis Two:

There is no significant difference between the mean responses of male and female Business Educators on interactive digital communication skills required for virtual teaching and learning of Business Education courses in tertiary institutions in Abia State.

**Table 2: Summary of t-test of significant difference between the mean responses of male and female Business Educators on interactive digital communication skill required for virtual teaching and learning of Business Education courses in tertiary institutions**

Gender	N	Mean	Std. Deviation	Df	Sig. 2-tailed	Decision
Male	14	2.62	.346	24	.639	Accept Ho
Female	12	2.57	.163			

The result presented on table 2 shows the summary of summary of t-test of no significant difference between the mean responses of male and female Business Educators on interactive digital communication skill required for virtual teaching and learning of Business Education courses in tertiary institutions in Abia State. It shows the mean score and standard deviation for male to be (2.62 and 0.346) and (2.57 and 0.163) for female, with a Df of 24. The p-value of 0.639 which was found to be greater than the significance level of 0.05 meant that the hypothesis was

accepted and retained as stated; There is no significant difference between the mean responses of male and female Business Educators on interactive digital communication skills required for virtual teaching and learning of Business Education courses in tertiary institutions in Abia State.

**Research Question One:** What are the interactive digital content creation skills required for virtual teaching and learning of Business Education courses in Tertiary Institutions in Abia State?.

**Table 3: Interactive digital content creation skills required for virtual teaching and learning of Business Education courses in Tertiary Institutions**

S/No	Item Statement: Interactive digital content creation skills required include the ability to	Mean	Std. Dev.
	Prepare course notes in CD plates	2.88	.952
	Use interactive tools to create quizzes, exams, and test for students	2.54	.859
	Use Power Point to convert presentation to online courses	2.62	.941
	Create dialogues simulations for course work	2.77	1.032
	Create courses from external ready-made library content and assets	3.04	.916
	Use video creation application like snapchat, video, TikTok to record classes for	2.77	.951

students		
Prepare course notes on HTML platforms	2.92	.891
Publishing e-learning course content to any learning management system (LMS)	2.65	.892
Use JavaScript platforms to prepare course materials for students	2.88	.909
Use record simulation screens to organize course content	2.65	.892
	<b>2.77</b>	

Table 2 reveals the interactive digital content creation skills required for virtual teaching and learning Business Education courses in tertiary institutions in Abia State. All the ten (10) items revealed mean scores above the criterion benchmark of 2.50, hence revealing a benchmark grand mean of 2.77 which indicates that Business Educators require content creation skills such as create courses from external ready-made library content and assets, use JavaScript platforms to prepare course materials for student and prepare course notes on

HTML platforms and so on for the virtual teaching and learning of Business Studies in tertiary institutions in Abia State.

**Hypothesis Two:**

There is no significant difference between the mean responses of male and female Business Educators on interactive digital content creation skills required for virtual teaching and learning of Business Education courses in tertiary institutions in Abia State.

**Table 4: Summary of t-test of significant difference between the mean responses of male and female Business Educators on interactive digital content creation skill required for virtual teaching and learning of Business Education courses in tertiary institutions**

Gender	N	Mean	Std. Deviation	Df	Sig. 2-tailed	Decision
Male	14	2.72	.222	24	.255	Do not reject
Female	12	2.83	.267			

The result presented on table 4 shows the summary of summary of t-test of no significant difference between the mean responses of male and female Business Educators on interactive digital content creation skill required for virtual teaching and learning of Business Education courses in tertiary institutions in Abia State, Nigeria. It shows the mean score and standard deviation for male to be (2.72 and 0.222) and (2.83 and 0.267) for female, with a Df of 24. The p-value of 0.255 which was found to be greater than the significance level of 0.05 meant that the hypothesis was accepted and retained as stated. There is no significant difference between the mean responses of male and female Business Educators on interactive digital content creation skills required for virtual teaching and learning of Business Education courses in Tertiary Institutions in Abia State, Nigeria.

male and female Business Educators on interactive digital communication skills required for virtual teaching and learning of Business Education courses in tertiary institution. This implies that male and female Business Educators believes that digital communication is required by every Business Educator irrespective of gender.

**DISCUSSIONS OF FINDINGS**

The result of the data in Table one revealed that Business Educators require digital communication skill such as abilities to use live chat in interacting with others and video chat to encourage virtual and face to face communication. Digital communication skills are important for personal use, and in education. The result of this study is in agreement with Eze (2023) who opined that one needs good communication skills to be able to work well with others. Similarly, Noah (2023) noted that every industry now requires an understanding of digital communication in order to remain valuable in today’s market.

The findings in table 3 revealed that Business Educators require content creation skills such as abilities to create courses from already readymade Library content and assets and prepare course notes in CD plates for virtual teaching and learning of Business Education courses in Tertiary Institutions in Abia State, Nigeria. Generally, Business Educators require content creation skills for virtual teaching. Content creation skill is essential for businesses, organizations and individuals who want to establish a strong online relationship and effective communication. The result of this study tallied with Onwubuya *et al* (2022) who noted that content creation is essential for molding Business Education students experiences within the global business context. The result of the hypothesis revealed that there’s no significant difference between the mean responses of male and female Business Educators on interactive digital content creation skills required for teaching and learning of Business Education courses in tertiary institutions. In other words, both male and female Business Educators requires interactive digital content creation skills for virtual teaching and learning.

**CONCLUSION**

Based on the findings of this study, the researchers concluded that Business Educators requires

The hypothesis 1 revealed that there is no significant difference between the mean responses of

interactive digital technology skills such as communication and digital content creation skills for virtual teaching and learning mostly in digital economy.

### Recommendations

Based on the findings of the study, the following recommendations were made

1. Business Educators should ensure that they acquire relevant digital interactive skills such communication and content creation skill essential to remain relevant in the current global settings.
2. Business Educators should update their knowledge on digital skills through training, workshops, conferences and researches to meet the current trends and professional demands the present times.

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**Interactive Digital Technology Skills Required for Virtual Teaching and Learning of Business Education Courses in Tertiary Institutions in Abia State Questionnaire (Idtsrvtlbecq)**

**SECTION A**

**INSTRUCTION: Please fill in as appropriate in the columns provided**

1. Name of State: -----

2.	Name of School:-----	Female
3.	Gender:	Male
4.	Type of Institution:	Federal
		State

**SECTION B**

VHR	=	Very Highly Required
HR	=	Highly Required
R	=	Required
NR	=	Not Required

**Interactive Digital Data Literacy Skills Required**

S/N	Item Statement: Interactive digital data literacy skills required include the ability to:	VHR	HR	R	NR
1.	Access information online through computers				
2.	Network with other colleagues via computer				
3.	Use graphic tablet to download files				
4.	Use audiotapes in teaching and learning				
5.	Type and print notes for students with computer				
6.	Present lessons on PowerPoint				
7.	Use social media sites like LinkedIn, Facebook, and twitter to share course resources with students				
8.	Engage in online communications				

9.	Use computer, phones and laptops				
10.	Use a working e-mail account to send out course works and assignments to students				
11.	Use scanning machines to convert course materials to soft copies				
12.	Use the photocopying machines to make extra copies of office documents				

#### Interactive Digital Communication Skills Required

S/N	Item Statement: Interactive digital data literacy skills required include the ability to use:	VHR	HR	R	NR
13.	e-mail in sending mails				
14.	Websites to provide information				
15.	Blogs in sharing ideas				
16.	Social Media to share knowledge and gain credibility in your area of specialization				
17.	Live Chat in interacting with others				
18.	Chat bots to stay online always				
19.	Video Chat to encourage virtual, face to face communication				
20.	Web calling for presentations and remote business				

#### Interactive Digital Content Creation Skills Required

S/N	Item Statement: Interactive digital data literacy skills required include the ability to:	VHR	HR	R	NR
21.	Prepare course notes in CD plates				
22.	Use interactive tools to create quizzes, exams, and test for students				
23.	Use Power Point to convert presentation to online courses				
24.	Create dialogues simulations for course work				
25.	Create courses from external ready-made library content and assets				
26.	Use video creation application like snapchat, video, TikTok to record classes for students				
27.	Prepare course notes on HTML platforms				
28.	Publishing e-learning course content to any learning management system (LMS)				
29.	Use JavaScript platforms to prepare course materials for students				
30.	Use record simulation screens to organise course content				

#### Interactive Digital Database Skills Required

S/N	Item Statement: The interactive digital database skills required are the ability to:	VHR	HR	R	NR
31.	Identify fields with unique values				
32.	Create database tables and record data				
33.	Query different data attributes from a database				
34.	Harmonise and refine database design				
35.	Extract database objects				
36.	Use web database programming effectively				
37.	Insert, update and delete record in a database				
38.	Use information system and system structure				
39.	Use file security and security techniques in managing database				
40.	Use structured query language (SQL) e				

#### Interactive Digital Desktop Publishing Skills Required

S/N	Item Statement: Interactive digital desktop skills required Include ability to:	VHR	HR	R	NR
41.	Arrange objects attractively on the page				
42.	Wrap txt around graphics				
43.	Design greeting cards, magazines and flyers				
44.	Create simple designs				
45.	Scale graphics to enhance balance				
46.	Layout text to leave white space				
47.	Format font size and type to suit purpose				
48.	Insert pictures from various sources				
49.	Create pages that are visually appealing, legible, and easy to read				
50.	Move and change the size of displayed graphics				
51.	Use freehand drawing tools				
52.	Fill and shade using different colours				