# CHAPTER 2
# REVIEW OF RELATED LITERATURE

## 2.1.0 Introduction

A literature review is a critical examination of previous research related to the present study. It provides a theoretical framework, identifies research gaps, and strengthens the rationale for the current investigation. This chapter presents a review of literature on the impact of ICT on education, particularly in the context of Social Science teaching and learning at the school level.

## 2.2.0 Studies Related to ICT

**Azidah Abu Ziden, Issham Ismail, Robitah Spian and K. Kumutha (2011)** carried study on 'The Effects of ICT Use in Teaching and Learning on Students' Achievement in Science Subject in a Primary School in Malaysia'. This study aimed to identify the relationship between the Information and Communication Technology (ICT) use in teaching and learning towards the achievement of primary school students in Science subject. 100 respondents were selected at a primary school in Butterworth, Penang, Malaysia. This study employed Quantitative approach. Students were classified into two groups, Treatment Group (teaching using ICT) and Control Group (teaching without using ICT). The t-test showed higher value for the Treatment Group as compared to the Control Group. The result indicated that ICT use in teaching and learning increased the students' achievement in Science subject in the primary school. This study also attempted to determine the differences of achievement between the female and male students in Science subject. Both male and female students showed improvement in their learning outcomes. However, the male students revealed higher level of achievement compared to the female students. The findings showed positive relationship between ICT use in science lessons and the students' achievements.

**Igori Wallace et. al (2019)** examined the effect of Information and Communications Technology on students' academic performance in science education in College of Education, Oju, Benue State, Nigeria. The study was a quasi-experimental design consisting of pre-tests and post-tests with a control group using intact classes. Two research questions were raised to be tested alongside two hypotheses at a 0.05 level of significance. The population of the study constituted 3,450 NCE II students from faculty of science, College of Education Oju. The sample comprised 53 NCE II students

chosen from the faculty through the intact class. The instrument of data collection was the Chemistry Achievement Test (CAT), whereas the data were analysed using means and standard deviations in relation to research questions and the t-test for hypotheses. The results showed that students who were taught with ICT had better academic performance on Chemistry and that the gender has no significant effect in the academic performance of students who were taught Chemistry with ICT instructional package.

**Sonali Gour (2023)** conducted the study to investigate the effect of ICT integrated teaching on academic achievement in science for class seventh student in Bhopal. She concluded that ICT integrated teaching yielded significant improvement in academics. She also mentioned that ICT enhanced the engagement of students in classroom and generated interest among students regarding science subject.

**Wael Sh. Basri, Jehan A. Alandejani and Feras M. Almadani (2018)** carried study on 'ICT Adoption Impact on Students' Academic Performance: Evidence from Saudi Universities'. This study investigates the adoption of ICT by the Saudi universities (King Abdulaziz University (KAU), Damam University (DU), Northern Border University (NBU) and Baha University (BAU)) and explores impact of ICT on students' academic performance. This study also examines the moderator effect of gender and student majors on the relationship between ICT and academic achievement. This study adopted quantitative research approach and a sample size of 1000 students. The Analysis of Moment Structures (AMOS) was used as research tool for structural equation modelling and path analysis. The findings reveal that there exists a relationship between ICT adoption and academic performance in a conservative environment. An additional finding also stated that ICT adoption resulted in the improvement of the performance of female students more than the male. students' IT major was found to be making no impact on students' academic achievement.

**Ronald Osei Mensah, Charles Quansah, Bernice Oteng and Joshua Nii Akai Nettey (2023)** conducted study on 'Assessing the effect of information and communication technology usage on high school student's academic performance in a developing country'. This study employed a mix method approach to access the effect of ICT usage on SCSs student academic performance and its associated challenges in Ghana. The respondents of this study were chosen using the Yamane formula. A total of 172 respondents were chosen for this study. Questionnaire and Interview Guide were the data collection tools used in this study. It was found that the majority of students

use their phones, computers, internet/modem, social media, digital cameras, or printers outside of school. On one hand, the findings stated that ICT use has helped students to enhance their academic performance. On the other hand, the findings also revealed that some challenges confront students using ICT facilities in their learning processes for lack of internet connection and the attitude of some teachers in integrating ICT into class. The availability of ICT resources in SCSs and sometimes even at home is crucial for the success of ICT in SCS education. Then the study suggests that parents should be encouraged to provide ICT resources for their children. Furthermore, governments in developing countries should set aside sufficient funds for providing universal access to ICT for the unserved and underprivileged groups.

**2.3.0 Studies Related to ICT in Social Science**

**Gyeltshen and Rebecca (2021)** carried research on 'Enhancing 6th Grade Students' Learning in Social Studies through Technology Based Teaching Approach'. This study carried on 49 students of two classes of 6th grade students: control group (n=25) and experimental group (n=24) in one of the middle schools in Bhutan. The research instruments consisted of experimental group treatment, survey questionnaire and semi-structured interview questions. The result suggested that there is an affirmative effect of technology-based teaching approaches on the 6th grade students' social studies learning achievement test. It was found that mean test scores of the experimental group were higher than the control group on pre-test and post-test analysis. Further, the findings from the study established that students had a positive perception of learning through technology-based instructions, as learners enjoyed, and were better able to understand, what has been taught. The findings from the study concluded that teaching through technology-based approaches enhanced students' learning in the classroom. It also recommended that teachers should apply technology-based instructions as a tool to maximize student learning. In addition, building of smart classrooms through digitalization could support students with learning difficulties in different subjects.

**Dr. Fareo Dorcas oluremi** conducted research in selected tertiary institutions in Adamawa state, Nigeria on 'influence of information and communication technology (ICT) on teaching and learning geography in selected tertiary institutions in Adamawa state'. The study revealed that teachers were moderately exposed to new technologies in teaching geography and poor availability of new technologies in teaching and learning of geography. The study found that there is poor integration of new

technologies in teaching geography by geography teachers. This study recommended that Government should concentrate the ICT policies in the secondary schools in the State and there should be continuous training and ICT skills upgrading for teachers.

**Cosmas Chirwa and Kaiko Mubita** conducted the study, 'the use of ICT in teaching of geography in selected schools of Petauke district in eastern province of Zambia' in Zambia. A qualitative approach with a descriptive study design was used to collect data through in-depth interviews and observations. A total of twenty-eight (28) respondents were involved in the study and the information collected was thematically analysed with the guidance of Braun and Clarkeâ€™s (2006) six phase framework. The study revealed that there is very minimal integration of ICT in the teaching and learning of geography. There were a number of barriers noted leading to the failure of effective integration of ICT in geography. This study recommended that school management should provide adequate funding to enable its teachers to attend workshops where they can gain skills and knowledge for integrating ICTs in the teaching and learning of Geography.

**Srivastava and Sangeeta Naveen (2013)** carried out study on 'effect of ICT information and communication technology tools on the academic improvement of secondary school students' in 2013. The study revealed that the intervention in form of ICT tool-based teaching programme did enhance the achievement level of students of the experimental group in geography.

**Emin Cener, Ismail Acun & Gokhan Demirhan (2015)** conducted study to investigate the effect on pupils' achievement in social studies resulting from teaching social studies with the help of ICT. A theme concerning history, geography and culture taken from the social studies syllabus was selected for the research, Turks on the Silk Road. Social studies were taught to sixth graders with the aid of multimedia CDs, documentaries, computers, and PowerPoint. The research design of the study was a Quasi-experimental design. Three different research tools were used to collect data: an academic achievement test, an attitude measurement scale on social studies education, and an attitude measurement scale on ICT. The following were found when post-test achievement scores were treated as dependent variables in block wise regression analysis: Pupils' attitudes towards the subject and ICT do not have an effect on their post-test achievement scores. However, both prior knowledge on the subject and the treatment, that is, teaching social studies with ICT, have a positive effect on their

achievement. No significant effect was found between teaching social studies with ICT and pupils' attitudes toward social studies lessons. This study recommended that teachers and policy makers should find ways to formulate effective ICT integration applications for social studies.

**Ekong Xavier Moses (2024)** carried study on ‘A Critical Analysis of the Usage of ICT Tools on Social Studies and Students" Academic Performance in Public Secondary Schools in Uyo Local Government Area of Akwa Ibom State’. This study examined the relationship between usage of ICT tools on social studies and students' academic performance in public secondary schools in Uyo Local Government Area, Akwa Ibom State. The population of the study comprised all the 5,029 junior secondary three (JSS3) students in the study area. A sample of 200 students were selected from total population. Simple random sampling technique was used to select 5 public schools from the total population of 14 public schools. Pearson product moment correlation (PPMC) was used in testing the hypotheses at 0.05 significant level an at 198 degree of freedom. The findings of the study revealed and concluded that the application of ICT tools for accessing information has little or no effect on social studies and students 'academic performance. The study recommended that the Akwa Ibom State Ministry of Education in collaboration with the State Secondary Education Board should provide or supply ICT facilities and organize in-service training to teachers on the application of ICT tools, so as to enhance quality and competence in teaching.