



## **Extent of Provision of ICT In-Service Training Needs of Teachers for Effective Curriculum Delivery in Secondary Schools in Anambra State**

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### **ABSTRACT**

The central aim of the study was to determine the extent of provision of ICT in-service training needs of teachers for effective curriculum delivery in secondary schools in Anambra State. The study was carried out in Anambra State using a descriptive survey research design. Four research questions and four null hypotheses guided the study. The population for the study was 6595 that comprised 6342 teacher and 253 principals in public secondary schools in 254 secondary schools in Anambra States. The sample size is 659 principals and teachers. The instrument used for data collection was 39 item structured questionnaire developed by the researcher. The instrument was structured using a four point rating scale for data collection and was face validated by three experts. Cronbach Alpha was used to determine the reliability coefficient of the instrument that yielded 0.89. Out of the 659 copies distributed 568 copies of questionnaire were returned representing 86.19 % return rate. Mean and standard deviation were used to answer the research questions and t-test was used to test the hypotheses at .05 level of significance at 566 degree of freedom. The result obtained from the findings depicted that all the items under in-service training needs in PowerPoint ( $x= 1.64$ ) and video conferencing ( $x=1.65$ ) were identified to rated to be provided to a low extent. The null hypotheses tested showed no significant difference in the mean ratings of teachers and principals on the identified low extent of provision of in-service training to teachers in powerpoint and video conferencing in Anambra State. Based on these findings, some implications were deduced and it was recommended among others that government should improve the in-service training provided to secondary school teachers to a high extent especially in ICT and entrepreneurship education and principals of secondary schools should inform the government on the need for in-service training of teachers in Powerpoint and video conferencing.

**Keywords:** In-service Training, ICT, Secondary School

## INTRODUCTION

The development of information and communication technology, unemployment, collapse of economic activities and their effect on various areas of human endeavour have resulted to retraining of workers for effective performance. In furtherance to these challenges, effort is usually directed in improving the existing workforce in addressing these challenges for future generation. In most cases, workers are given the opportunity to gain new knowledge, skills and attitude to discharge the professional responsibility and this is usually done through in-service training. According to Rao (2014), in-service training may be defined as a continuing education of workers or teachers which commence after initial professional education is over and which leads to the improvement of professional competencies of the employees throughout their careers. It is a process of imparting more knowledge and skills with the aim of updating one's knowledge, competencies and making one contribute more and better in his job, (Shehu, 2010). Shehu emphasized that these activities are planned and organized by various agencies to help the educators to improve as persons and mature as professionals.

The central objective of in-service training is the continuous provision of information that would keep the employees (teachers) abreast of new developments in teaching and learning. Factoran (2009) pointed out that the relevance of in-service training are as follows: to promote the continuous improvement of the total professional staff of the school system, eliminate deficiencies in the background preparation of teachers and other professional workers in education, keep the professionals abreast of new knowledge, release creative activities to the organisational system and give the much needed supports to the teachers and other employees who are entering new field of work and use of innovative tools and strategies. According to the Federal Republic of Nigeria (2013), in-service training was to be developed as an integral part of continuing teachers' education which takes care of inadequacies. It is generally believed that he who wishes to teach need to keep with learning. It is imperative to note that provision of in-service training in information technology age is the key for maintaining effectiveness and overall improvement in employee work performance.

Further, Audu (2010) opined that that this type of training is recognized as pre-requisites for manpower development and economic growth of a nation. Audu stressed that in-service training gives teachers in educational system the opportunities to improve their knowledge, skill and make use of innovative instructional tools to teach the students. Adequate provision of the needed in-service training to the teachers would enable them to overcome the areas of inadequacies in terms of curriculum changes and innovation in their area. It is expected to enable the teachers to fulfil their instructional responsibility.

Teachers are charged with the responsibility of imparting knowledge and needed skills to the students in the schools. For the teachers to achieve this, they need appropriate training and exposure to the new knowledge and contemporary issues in their area. Okeke (2013) observed that there is need for continuous retraining of teachers and review of the secondary school curriculum to provide the needed education for the Nigeria nation. A critical look at the teachers' capacity development and curriculum at secondary schools in Anambra State showed a significant innovation in the content of instruction in the areas of information and communication technology and computer application. This calls for the teachers retraining in order to meet the needs of the students and challenges of the curriculum contents.

Research findings by Okeke (2013) depicted that many teachers are not taught adequately during their school days as a result, in-service training becomes obvious. In the context of this study, in-service training is training given to teachers to upgrade and develop their skills after they might have been employed. It is any activity which a teacher undertakes after he has been employed to teach in his area of specialization. This may be in form of conferences, seminar and workshops, further education and retraining in innovative teaching methodology (Eze, 2016). This retraining programme may be given to teachers at various levels of education including secondary school.

Secondary school teachers are required to utilize the appropriate teaching method and skills to provide training to the students. According to Mbah and Imakwu (2017), secondary schools are the post primary education levels that provide the students with skills and knowledge for sustainable development and further studies in tertiary institution. The secondary school teachers play significant roles in the training of the students for vocational skill development and future life. Eze (2016) observed that teachers retraining programmes ought to be directed towards information and communication technology (ICT),

curriculum review and blended teaching strategies. To ensure that the teachers are abreast with information technology, curriculum review and inculcation of right values even in the social media world, the secondary school teachers need appropriate in-service training (Chepkole, Koros & Prisca, 2017). In-service training needs are of great importance to male and female secondary school teachers. Odike (2021) observed that in-service training needs are not gender and employment position sensitive as it is of great importance to all the employees.

However, the provision of in-service training for secondary school teachers need to be directed towards ICT areas of powerpoint, video conferencing, information system handling and entrepreneurship in order to address the needs of the society in contemporary era (Chepkole, Koros & Prisca, 2017; Onuma, 2017). ICT in classroom is an umbrella term that includes computer and telecommunication devices and packages such as radio, television cellular phones, computer, powerpoint, video conferencing and internet hardware and software. PowerPoint is a widely used presentation programme that originated in the world of business but has now become common place in the world of education technology. According to Nwaubani, Nwokenna, Agbo, Ezema & Edeh, (2016) PowerPoint is now one of the most widely applied software in classroom teaching. PowerPoint presentation has many advantages over traditional chalk and talk lecture method of teaching (Ding & Liu, 2012). ICT skill and knowledge developed using powerpoint helps the teacher to utilize the innovative teaching methods as most of them are computer-based methods. In addition to in-service training needs of teachers in powerpoint is the video conferencing.

Video conferencing is used extensively for teaching purposes. Video conferencing systems are installed in a number of teaching theatres across a large group of teaching and learning. It is an electronic learning platform which provides pictures and audio signal to cause a desirable change in behaviour of the students (Eze, 2016). In a teaching scenario, one can deliver instruction to two or more groups of students at the same time, which not only saves time and energy but allows the students to interact with each other and broaden the scope of the class (Babajide & Ross 2009). According to Odoh (2012) video conferencing is a medium designed for dialogue and discussion about ideas and information presented by any of the participants (teacher or students). For instance, Nwaubani, et-al (2016) pointed out that teachers need in-service training in the use of social media, video conferencing, internet and other computer aid tools in facilitating teaching and learning in school. This is necessary in that training in 21st century which requires digital skills and knowledge to function in contemporary issues where distance education and information system are highly in use.

The society is changing and information systems are changing with it. It showed that content and approaches are equally changing. For instance, in secondary schools in Anambra State teachers seem not to be abreast with the competencies needed in the operation of some technological devices provided for effective teaching and learning. Such technological devices include social media, projector and slides, internet and other computer assisted devices. Ezeilo and Mbah (2019) pointed that they are needed for contemporary teaching effectiveness. It is pertinent ascertain the extent teachers require these needs in the delivery of curriculum content and improving instructional effectiveness, hence the need for the study. The perception of teachers and principal will be very relevant in this study. They are the people that receive the training and manage instructional activities; they are the ones that operate the devices to teach the students and can identify the area for in-service training.

### **Statement of the Problem**

Researches have shown that there are weaknesses exhibited by secondary school teachers on their job performance such as poor knowledge on the use of modern technological teaching tools in education and poor knowledge of entrepreneurship education. Studies conducted by Eze (2016) and Ezeugwu (2016) found that teacher training institutions lack modern facilities for teaching prospective teachers and that many educators have not been trained with modern equipment. This condition had affects the quality of job performance by secondary school teachers and consequently affected the quality of education provided to the students. This situation had impacted to the increasing poor academic performance and poor acquisition of ICT skill by the students in the contemporary issues and circumstances.

The researcher is worried with the type of training received by secondary school teachers during their pre-service training which may not address the challenges in contemporary society. This is because, it

has not contributed adequately to their job performance in producing the right quality output in secondary schools that would meet the societal needs. As a result, there is gap in what is taught and what the society needs which affect the level of unemployment, over dependency and poor performance of the students. It is not known the extent in-service training needs of teachers are provided in order to address the challenges of job performance in 21st century classroom. The problem of this study posed as a question is; to what extent are the in-service training needs of teachers are provided in secondary schools in Anambra State?

### **Purpose of the Study**

The central purpose of the study was to determine the extent of provision of ICT in-service training needs of teachers for effective curriculum delivery in secondary schools in Anambra State. Specifically, the study sought to determine the extent of provision of;

1. The Powerpoint in-service training needs of teachers for effective curriculum delivery in secondary schools in Anambra State.
2. The video conferencing in-service training needs of teachers for effective curriculum delivery in secondary schools in Anambra State.

### **Research Questions**

The following research questions will guide the study;

1. To what extent are the PowerPoint in-service training needs of secondary schools teachers in Anambra State are being provided?
2. To what extent are the Video conferencing in-service training needs of secondary schools teachers in Anambra State are being provided?

### **Hypotheses**

The following null hypotheses were formulated and will be tested at 0.05 level of significance;

H<sub>01</sub>: There is no significant difference in the mean ratings of principals and teachers on the extent PowerPoint in-service training needs of secondary schools teachers in Anambra State are being provided

H<sub>02</sub>: There is no significant difference between the mean ratings of principals and teachers on the extent video conference in-service training needs of secondary school teachers in Anambra State are being provided.

### **METHODS**

This study adopted a survey research design. According to Nworgu (2015) survey research design is one in which a group of people or items are studied by collecting and analyzing data from only a few of them the entire group. This design was adopted due to the polychotomous instrument used and the opinion of the principals and teachers were sought for. The population for the study is 6595 that comprised 6342 teacher and 253 principals in public secondary schools in 254 secondary schools in Anambra States. The sample size is 659 principals and teachers. The sample size was determined using proportionate sampling techniques. Nworgu (2015) opined that when a population is above 1,000 the 10% of the population may be sampled to represent the entire population used for the study. This was applied to the population of principals and teachers with sample size of 26 and 633 respectively.

The data collection was carried out using 20 item structured questionnaire developed by the researchers. The instrument was structured in four point response scales of Very High Extent (VHE) High Extent (HE), Low Extent (LE) and Very Low Extent (VLE) with numerical values of 4, 3, 2 and 1 assigned to the items respectively. The instrument was validated by three experts in the relevant area. The reliability coefficient yielded 0.89 using Cronbach Alpha method. This 0.89 coefficient is in-line with Uzoagulu (2013) that reliability index of 0.60 to 1.0 shows that the instrument is highly reliable.

Three research assistants were used in the administration of the questionnaire and out of 659 copies distributed 568 copies were returned giving 86.19% return rate. Weighted means and standard deviations were used to answer the research questions. Decisions on the research questions were made using the lower and upper limits of the mean based on a four point scale as follows: Very High Extent (VHE) -- 3.50 - 4.00; High Extent (HE)--2.50 – 3.49; Low Extent (LE)--1.50 – 2.49 and Very Low Extent (VLE)-- 0.50 – 1.49. The standard deviation was used to determine the homogeneity or otherwise of the opinions of the respondents. The t – test statistics of no significance difference was used to test the null

hypotheses. The significant value (at 2-tail) was compared with .05 level of significance at the appropriate degree of freedom. The null hypothesis was not rejected where the significant value was less than the .05 level of significance value at appropriate degree of freedom; otherwise the null hypothesis was rejected.

## RESULTS

The results of data analysis were presented in the tables below;

### Research Question 1

*To what extent are the PowerPoint in-service training needs of secondary schools teachers in Anambra State are being provided?*

**Table 1: Mean ratings and standard deviation on the extent PowerPoint in-service training needs of secondary schools teachers in Anambra State are being provided**

| S/N                    | extent PowerPoint in-service training needs of secondary schools teachers are being provided including on the use of PowerPoint in ; | Principals N= 103 |                 | Teachers N= 465 |                 | Overall     |                 | Decision  |
|------------------------|--|-------------------|-----------------|-----------------|-----------------|-------------|-----------------|-----------|
|                        |  | $\bar{X}_1$       | SD <sub>1</sub> | $\bar{X}_2$     | SD <sub>2</sub> | $\bar{X}_G$ | SD <sub>G</sub> |           |
| 1                      | preparing instructional delivery in financial accounting   | 1.71              | 0.67            | 1.71            | 0.66            | 1.71        | 0.66            | LE        |
| 2                      | in delivery of lesson in the lesson  | 1.61              | 0.62            | 1.65            | 0.69            | 1.64        | 0.68            | LE        |
| 3                      | managing classroom learning condition  | 1.58              | 0.67            | 1.60            | 0.66            | 1.60        | 0.66            | LE        |
| 4                      | to provide distance learning to the student  | 1.59              | 0.70            | 1.64            | 0.72            | 1.63        | 0.72            | LE        |
| 5                      | proper time management in instructional delivery   | 1.56              | 0.67            | 1.63            | 0.67            | 1.62        | 0.67            | LE        |
| 6                      | receive immediate feedback from the students   | 1.62              | 0.67            | 1.61            | 0.64            | 1.62        | 0.65            | LE        |
| 7                      | preparing lesson materials for the students to print at convenience  | 1.67              | 0.66            | 1.70            | 0.72            | 1.69        | 0.71            | LE        |
| 8                      | as an electronic instructional delivery method   | 1.61              | 0.62            | 1.65            | 0.66            | 1.64        | 0.65            | LE        |
| 9                      | revision of instruction after teaching.  | 1.64              | 0.72            | 1.61            | 0.65            | 1.61        | 0.67            | LE        |
| <b>Cluster Mean/SD</b> |  | <b>1.62</b>       | <b>0.67</b>     | <b>1.64</b>     | <b>0.67</b>     | <b>1.64</b> | <b>0.67</b>     | <b>LE</b> |

**Note:** X = Mean; SD = Standard Deviation; LE= Low Extent

The analysis of data presented in Table 1 shows that the mean rating of the principals ranges from 1.56 to 1.71 and that of the teachers ranges from 1.61 to 1.71 indicating low extent. The overall mean ratings range from 1.60 to and 1.71 showing low extent. This means that the respondents' response to the items as to the extent PowerPoint in-service training needs of secondary schools teachers in Anambra State are being provided is low. The overall cluster mean of 1.64 further indicates that PowerPoint in-service training needs of secondary schools teachers in Anambra State are being provided to a low extent. The low standard deviation of 0.67 indicates that the respondents have similar opinion to the items.

### Hypothesis 1

There is no significant difference in the mean ratings of principals and teachers on the extent PowerPoint in-service training needs of secondary schools teachers in Anambra State are being provided

**Table 2: Summary of t-test analysis of mean ratings of principals and teachers on the extent PowerPoint in-service training needs of secondary schools teachers in Anambra State are being provided**

| Variables  | N   | t     | df  | Sig. (2tailed) | Mean Difference | Std. Error Difference | Decision |
|------------|-----|-------|-----|----------------|-----------------|-----------------------|----------|
| Principals | 103 | 0.367 | 566 | .714           | .20025          | .54576                | NS       |
| Teachers   | 465 |       |     |                |                 |                       |          |

The result of t-test analysis in Table 2 shows that the t-value at 0.05 level of significant and 581 degree of freedom for the nine items is 0.367 with a significant value of 0.714. Since the significant value of 0.714 is more than the 0.05 level of significant the null hypothesis is not significant. This means that there is no

significant difference regarding the nine items on the mean ratings of principals and teachers on the extent PowerPoint in-service training needs of secondary schools teachers in Anambra State are being provided.

**Research Question 2:** *To what extent are the video conferencing in-service training needs of secondary schools teachers in Anambra State are being provided?*

**Table 3: Mean ratings and standard deviation on the extent Video conferencing in-service training needs of secondary schools teachers in Anambra State are being provided**

| S/N                    | extent Video conferencing in-service training needs of secondary schools teachers are being provided including; | Principals<br>N= 103 |                 | Teachers N= 465 |                 | Overall     |                 | Decision  |
|------------------------|---|----------------------|-----------------|-----------------|-----------------|-------------|-----------------|-----------|
|                        |   | $\bar{X}_1$          | SD <sub>1</sub> | $\bar{X}_2$     | SD <sub>2</sub> | $\bar{X}_G$ | SD <sub>G</sub> |           |
| 10                     | use of video conferencing in lesson planning  | 1.65                 | 0.66            | 1.68            | 0.66            | 1.67        | 0.66            | LE        |
| 11                     | use of video conferencing in delivery of lesson in the class  | 1.66                 | 0.69            | 1.65            | 0.69            | 1.65        | 0.69            | LE        |
| 12                     | delivering instruction at a distant location  | 1.62                 | 0.67            | 1.63            | 0.66            | 1.62        | 0.66            | LE        |
| 13                     | Prepare video conferencing for discussion method/interactive instruction  | 1.69                 | 0.73            | 1.66            | 0.71            | 1.67        | 0.71            | LE        |
| 14                     | Prepare video conferencing for technological/instructional materials  | 1.72                 | 0.67            | 1.68            | 0.66            | 1.68        | 0.66            | LE        |
| 15                     | Use of video conferencing to facilitate individualized learning activities                                      | 1.66                 | 0.68            | 1.62            | 0.63            | 1.64        | 0.65            | LE        |
| 16                     | managing video conferencing communication in classroom  | 1.62                 | 0.65            | 1.63            | 0.68            | 1.63        | 0.67            | LE        |
| 17                     | use video conferencing in evaluation of learning  | 1.70                 | 0.71            | 1.64            | 0.66            | 1.65        | 0.67            | LE        |
| 18                     | use video conferencing in collaborative instruction among students in different location                        | 1.69                 | 0.68            | 1.59            | 0.64            | 1.61        | 0.65            | LE        |
| 19                     | Use video conferencing for replaying instructional delivery   | 1.64                 | 0.63            | 1.63            | 0.65            | 1.63        | 0.65            | LE        |
| 20                     | Prepare video conferencing provide animation to students  | 1.73                 | 0.72            | 1.64            | 0.68            | 1.66        | 0.69            | LE        |
| <b>Cluster Mean/SD</b> |   | <b>1.67</b>          | <b>0.68</b>     | <b>1.64</b>     | <b>0.67</b>     | <b>1.65</b> | <b>0.67</b>     | <b>LE</b> |

**Note:** X = Mean; SD =Standard Deviation; LE= Low Extent

The data presented in Table 3 indicates that the mean ratings of the principals ranges from 1.62 to 1.72 and mean ratings of the teachers ranges from 1.59 to 1.68; while the overall item mean ratings ranges from 1.61 to 1.68 depicting low extent. This shows that the items on the extent video conferencing in-service training needs of secondary schools teachers in Anambra State are being provided are low. The overall cluster mean rating of 1.65 indicates low extent. This implies that the respondents' responses to the extent video conferencing in-service training needs of secondary schools teachers in Anambra State are being provided low. The low standard deviation of 0.67 shows that the respondent's opinions do not differ remarkably to the itemized.

**Hypothesis 2**

There is no significant difference between the mean ratings of principals and teachers on the extent video conference in-service training needs of secondary school teachers in Anambra State are being provided

**Table 4: Summary of t-test analysis of mean ratings of principals and teachers on the extent video conference in-service training needs of secondary school teachers in Anambra State are being provided**

| Variables  | N   |      |     | Sig. (2tailed) | Mean Difference | Std. Error Difference | Decision |
|------------|-----|------|-----|----------------|-----------------|-----------------------|----------|
|            |     | t    | df  |                |                 |                       |          |
| Principals | 103 | .549 | 566 | .584           | .34595          | .63065                | NS       |
| Teachers   | 465 |      |     |                |                 |                       |          |

The result of t-test analysis in Table 4 shows that the t-value at 0.05 level of significant and 581 degree of freedom for the items is 0.549 with a significant value of 0.584. As the significant value of 0.584 is more than the 0.05 level of significant the null hypothesis is not significant. This means that there is no significant difference with respect to the items on the mean ratings of principals and teachers on the extent video conference in-service training needs of secondary school teachers in Anambra State are being provided.

## DISCUSSION OF FINDINGS

The result of the study according to research question one indicated that PowerPoint in-service training needs are provided to a low extent secondary schools teachers. The findings of the showed that PowerPoint in-service training needs are provided to a low extent in preparing instructional delivery in financial accounting, delivery of lesson in the lesson, managing classroom learning condition, providing distance learning to the student, receiving immediate feedback from the students and preparing lesson materials for the students to print at convenience, revision of instruction after teaching. The findings of the study revealed that PowerPoint in-service training needs of teachers are not provided to the levels they needed it to perform effectively in contemporary society. The findings of the study were in agreement with Ding and Liu (2012) that powerpoint training are not being provided to teachers to utilize it in their various subject area. A study conducted by Mbah (2015) compared classes taught with and without PowerPoint materials and showed no significant change in students' performance with PowerPoint though most of the students prefer PowerPoint to chalkboard teaching. There is need to ensure that in-service training provided to the teachers address the powerpoint needs of the teachers in their various subject matter. The findings of the study showed that there was no significant difference in the mean ratings of principals and teachers on the extent PowerPoint in-service training needs of secondary schools teachers in Anambra State are being provided. The implication of the findings of the study were that principals and teachers share the same opinion on the low extent of proving PowerPoint in-service training needs of secondary schools teachers in Anambra State.

In addition to the above, findings on research question two showed that video conference in-service training needs of secondary school teachers in Anambra State are being provided to a low extent. The study found that video conference in-service training needs provided to a low extent includes; using video conferencing in lesson planning, delivery of lesson in the class, delivering instruction at a distant location, prepare video conferencing for discussion method/interactive instruction, preparing video conferencing as technological/instructional materials, use of conferencing to facilitate individualized learning activities, managing video conferencing communication in classroom, use video conferencing in evaluation of learning, use video conferencing in collaborative instruction among students in different location, using video conferencing for replaying instructional delivery and preparing video conferencing to provide animation to students. This low extent means that the teachers need the training in video conferencing but poor attention are being provided on it for their services delivery. The findings of the study were in consonance with Odike (2021) that video conferencing training are not given the needed attention for sustainable education development in 21<sup>st</sup> century. The author pointed that teachers should be given in-services training in video conferencing to improve their service delivery in schools and distance locations. Nwaubani, Nwokenna, Agbo, Ezema and Edeh (2016) observed that adding video teaching to repertoire assists one to keep current with technology and explore new teaching delivery method. Video teaching may allow teachers to extend the reach of his/her content for instance, one may be able to attract additional enrolment from students in regional or rural areas where students are able to participate in classes and seminars, via video and allow students who could previously have missed out to take that content. The findings of the study depicted that there was no significant difference between the mean ratings of principals and teachers on the extent video conference in-service training needs of secondary school teachers in Anambra State are being provided. This showed that the principal and teachers share the same view that in-services training in video conferencing are not provided to high extent for effective service delivery. The findings were in agreement with Eze (2016) that in-service training of teachers in video conferencing ought to be considered critical in ICT classroom for service delivery.

## CONCLUSION

The idea of in-service training may be used to improve teacher's quality, effective curriculum delivery and students' academic performance in secondary schools. The challenges of teaching and learning in ICT age and era of joblessness which necessitated entrepreneurship education require the teachers to be given in-service training for effective development and service delivery. There is need to provide in-service training as a means of upgrading and updating of the knowledge and skills of teachers, modelling and reorientation of their attitude, so that they can be more effective, efficient and productive in their job. The study found that secondary school teacher's in-service training are provided to a low extent in the areas of powerpoint and video conferencing. The study revealed that the provision of in-service training in Powerpoint and video conferencing to the teachers are low and therefore ought to be increased to improve services delivery in the secondary schools in Anambra State.

## RECOMMENDATIONS

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

1. Government should improve the in-service training provided to secondary school teachers to a high extent especially in ICT.
2. The government should ensure that the facilities are provided during the in-services training to improve the acquisition of skills in ICT teaching strategies as seen in powerpoint and video conferencing.
3. The secondary school teachers should ensure participation and practicing of skills acquired in-service training in their service delivery.
4. Administrators of secondary schools should develop a framework for the government on the provision in-service training to teachers in Powerpoint, video conferencing and other ICT related areas.

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