Learning Unit 3
Doing basic research

After completing this Learning Unit, you will be able to conduct basic research and analyse and present the findings, by successfully completing the following:

- Identify and define appropriate or relevant topic and scope.

- Plan and sequence research steps appropriately.

- Apply research techniques.

- Evaluate information for relevance.

- Classify, categorise and sort information.

- Analyse research findings and present them in the appropriate format.

Doing basic research

Basic research forms the backbone of any centre of higher learning as far as building of new knowledge and providing for the expansion of knowledge is concerned. It trains students' minds to search for innovative additional knowledge and obtain a better understanding of a subject.

The following points are relevant for any research paper or topic.

- Being analytical and critical: This means going deeper into the depth of the topic that you have chosen and questioning your own ideas.

- Being systematic: If you are not clear regarding the outline of the research, you will become lost. Follow your outline and be consistent.

- Being accurate: This means that you have to conduct a careful investigation. Even if you have your own conclusion, you should ensure that you have evidence to prove that your information is accurate.

- Having replicability (can this be repeated?): The research design and procedures should enable the researcher to arrive at valid and conclusive results.

- Being empirical: Base data on direct observation and general truth.

- Having original work: Do not copy someone else's ideas; produce you own work by using scientific process.

- Be hypothetical: Make an intelligent guess before presenting the conclusion.

3.1 Identify and define appropriate or relevant topic and scope

Research usually starts with a question. Formulating that question can be the most difficult part of the research process. But before you can find the right question to ask, you need some context or background about your topic.

The first step is to state your topic idea as a question or a sentence. Such as: "How do the progress of children from a rural area compare to children in urban areas?"

Before you commit to this or any specific topic for your research, you should use your library as a trustworthy general resource. The library subscribes to thousands of databases — collections of articles, images and data — in a wide range of subject disciplines that cover in-depth information that is often not available online for free.

The more specific you can be about what you are looking for, the more effective your search will be. To define your potential search terms, identify the main concepts or keywords in your question. In this case, they are "children", "rural children", "urban children".

Now perform the search. Review the search results to determine if your topic is:

- Too large? Are there too many search results? Maybe you can focus or narrow the topic more.

- Covered exhaustively elsewhere? Have many people researched this already? Ask your peers. They may be able to suggest a new perspective, or even recommend that you choose something else.

- Too exact, vague or too new? There might be too little supporting information or evidence for your topic. You also might not be clear enough, or need to broaden your topic.

You are now going to do a practical exercise by performing a research analysis in teams of four. The first step in the project, therefore, is to form a team of four. Each person in the team has a role to perform.

The roles are:

- Conductor: keep things running smoothly e.g. materials, participation.
- Chair: co-ordinates the activity.
- Scribe: keeps written records.
- Reporter: gives feedback when required.

Each person should support the others in their roles. For example, everyone helps the recorder to capture the group's ideas. (These roles are not fixed, and with the next project they will rotate.)

The next step is to decide what the topic for your research project is, and what the scope of the research is. Some possible topics for research are child development theories; influence of socio-economic factors on early childhood development; learning through playing; etc.

Your facilitator will help the class to list some research topics that are relevant to your occupational concerns as ECD learners.

To decide on the topic for your group research project, you need to think of a subject. However, you also need to keep in mind the scope or extent of your research. You can think of the topic as being the starting point of the research, and the scope as how far you are going to go with that research.

In your group, discuss subjects that you all find interesting. Use the following as a guide for your discussion:

- You need to have consensus on the choice of topic, as you will all have to work equally hard at it.
- The topic should be one in which you all have an interest.
- There should be a common understanding of what the topic is.
- The topic should be one for which you will have access to a range of suitable resources.
- You should all have some basic information on the topic as a starting point.

Once you have agreed on a topic, you will need to define the scope of your research. It is important to all have a similar idea of what you are going to do with the topic. One way of doing this is to have a research question. This will focus everyone in the group on a common approach.

To develop a research question, the group should brainstorm ideas around the topic. Remember the conditions for a brainstorm. If you have a variety of ideas on the table will open up different aspects of the topic, and you should then make a decision as to the best aspect for your group to research. This will lead you to a research question.

When you have a question planned, submit it to your facilitator for comment.

3.2 Plan and sequence research steps appropriately

The steps to carrying out good research are as follows:

- gathering relevant information
- evaluating the information
- processing the information – classifying, categorising, sorting
- analysing and presenting

As this is a group project, these steps should be carefully planned. So far, the work has been a group effort. Your group decided on a topic and developed the research question, but the group members should now take on certain tasks individually. The group should plan the following points:

- Who will take on responsibility for gathering and processing information from different sources? You may decide that each one will work with different resources, or some may work with the same kinds of resources.

- How many sources should each person find?

- Whichever way it is decided, there should be an agreed plan, as well as a timeframe. This plan should be recorded:

Plan of Action	Electronic resources	Print resources	Human resources
[name]	[no. of sources]	[no. of sources]	[no. of sources]
[name]	[no. of sources]	[no. of sources]	[no. of sources]
[name]	[no. of sources]	[no. of sources]	[no. of sources]

3.3 Apply research techniques

Gathering information gives the basis for providing an informed, reliable and valid answer to a given question. This information should:

- be from a range of sources

- be relevant to the research issue

- come from reliable sources

The most common research methods are: literature searches, talking with people, focus groups, personal interviews, telephone surveys, mail surveys, e-mail surveys and internet surveys.

Performing a literature search means that you have a look at text materials that are generally available. This may include relevant skills publications, newspapers, magazines, encyclopaedias, annual reports, on-line specific reliable information and any other published materials. It may take long to do this but it is a very inexpensive method of gathering information. Using the web is fast, while library literature searches can take much longer. Be aware though that not all information online is reliable. Go to well-known sites to gather information as well as university sites. Many universities now have open source information that is reliable.

Face to face interviews and even informal talking with people is a good way to get information during the initial stages of a research project. Personal interviews are a way to get in-depth and detailed information. During personal interviews one person interviews another person to obtain personal or detailed information. It can be used to gather information that is not publicly available, or that is too new to be found in the literature. Although this kind of information is often helpful, it is not always 100% valid because it is highly subjective, even biased and might not be representative of the population or ideals.

A focus group can be used as an introductory research technique to explore various people's ideas and attitudes. This is a more formal method; a group of 6 to 20 people are invited to meet in a conference-room-like setting with a trained moderator. The moderator usually leads the group's discussion and keeps the focus on the topics that you want to explore. This process can take a number of weeks. Focus groups can also be conducted amongst peers

and in a less formal manner. However, it should always be methodical and systematic. Their disadvantage is that the sample is usually small and may not be representative of the population in general.

Telephone surveys. A prepared script that is essentially the same as a written questionnaire is used. This method can reach a much larger sample of the population. However, unlike a mail survey (below), the telephone survey gives the researcher the chance to examine people's opinions in some detail.

Another popular and more modern method is a **mail survey**. They are ideal for large sample sizes, or when the sample comes from a wide geographic area. However, because there is no interviewer, there is no possibility of interviewer bias. The main disadvantage is the inability to explore respondents to get more detailed information.

Internet surveys are also a practical option and there are many free websites that allow you to put your questions online and e-mail them to a set of the population. While it is clearly the most cost-effective and fastest method of distributing a survey, there is a danger of bias: the demographic profile of the internet user does not represent the general population, although this is changing. Before doing an e-mail or internet survey, the researcher should carefully consider the effect that this bias might have on the results.

In unit 1 we looked at a range of learning resources, including print, electronic and human. We evaluated them for reliability and found that the internet must be used with caution because there are no controls. We must therefore make sure that we use only information from a reliable website.

3.4 Evaluate information for relevance

We have said that the information that is gathered must be relevant to the topic and the question. Note the following points in this regard:

Skimming will be a useful skill to evaluate the relevance on websites, in other words, where choices must be made between the substantial amounts of information that are available. **Scanning** will be helpful on internet sites to search for key ideas that are relevant to the topic.

A good acronym to use to evaluate information is:
- **R**eliability
- **O**bjectivity
- **A**ccuracy
- **R**elevance

As regards reliability, you should keep the following in mind:
- Are these knowledgeable and acknowledged authors?

Ask questions:
- Are the author's credentials, such as schooling, occupation and position stated?
- Is the author acknowledged and considered to be well-informed in this field?
- Does the author have any connections to well know institutions such as universities or organisations?
- Is the publisher of good reputation?
- Can you contact the author?
- Have autonomous experts evaluated the quality of the information before it was published?

- Is the English of an excellent nature?

Objectivity should keep the following in mind:
- Objective and balanced sources
- Absence of conflicts of interest

Ask questions:
- Is the reporting objective or biased?
- Is the information balanced or one-sided?
- Is the information balanced or in line with formerly known information? Does the information seem to be exaggerated?
- Is the information and extensive and does it cover all aspects of the topic?
- Is the author's intent to persuade, convince or market something? Does this affect the content in any particular direction?

Accuracy should keep the following in mind:
- Updated sources
- Extensive, detailed and precise information
- Documentation and support from other sources

Ask questions:
- When was this source published and last updated? This includes internet information.
- Is the information based on facts or opinions? This is of special importance when using the internet.
- Is the information sufficient and detailed?
- Are there references or a bibliography that shows the author's research on the subject?
- Does the author name sources for statistics or "facts" which are used? Check these as well!
- Can the information be validated by at least two other sources?

Relevance has the following to keep in mind:
- Is it relevant to your topic?

Ask questions:
- Which topic areas does this resource cover?
- Is this relevant the information needed for the topic?
- Can you find the same in a scientific publication meant for academics or others who are well-informed in this field?

3.5 Classify, categorise and sort information

Simply put, **categorising** means **sorting** your research information into groups that work methodically. The categories in your research topic will be very specific and help you impose order in your findings.

Classifying involves **sorting** your research material into known, fixed classes.

For example: Classifying is a key skill in reading and doing research because it gets people to focus on

- what interests them
- what information they need to collect in your research
- what meets their specific research purpose
- what they can ignore

Processing the information relies on the following skills:

- **Key-words** are used when classifying material, doing summaries, and in making presentations.
- **Underlining** can be used when using internet printouts.
- The information gathered and processed by individual members is now put together and discussed in relation to the research question. Information should be arranged in groups, e.g. statistics, diagrams, evidence for one point of view, evidence against that point of view, unexpected information that was found, etc.

3.6 Analyse research findings and present them in the appropriate format

Always start with your research goals or the question that you formulated at first. Once you are doing the analysis of your research findings (that you might have obtained from questionnaires, interviews, focus groups, etc.), you should always by reviewing your research goals, i.e., the reason/question that you decided to research.

This is when you need to be connecting all of your research findings together and indicate how they stem from the research questions. This is when you make certain that your results allow you to present acceptable answers to your questions and to engage with the questions. Also be open-minded and show why some elements of the answers are satisfactory and others are not as satisfactory.

Introduce a brief argument (introduction) about the consistency and link between your findings and the topic you chose.

It is important that you indicate how your research findings add to or exceed some of the research of others, so that more may carry out similar research activities. Also be sure how your findings dovetail with other research. At all times be humble and modest by not making unproven assertions.

This can all be done roughly at first in order to formulate your thought direction. This is often not a once-off document and you may find yourself rewriting it a few times!

Once this is done you need to put this into an acceptable format:

Title page - title of report, your name, organisation, date of submission, name of tutor

Acknowledgements - optional

Contents page - chapters, appendices, tables, figures, illustrations

Executive summary – a summary and outline of your main findings including context, purpose, objectives, methods, main results, conclusions and recommendations for whoever is reading the document.

Introduction – including background, organisational context and circumstances leading to the investigation, the terms of reference, aims and objectives.

Literature review – This is where you will refer to all the authors and other contributors to your particular topic. It includes the theories, concepts, issues and research reports that have moulded your research questions and the approach you have chosen. This is where you place your own work into context.

Research methodology – You need to show that you have used systematic data collection and research methods. Also include a clear presentation of the findings using charts, graphs, etcetera where appropriate.

Including your analysis and interpretation of findings – all-inclusive analysis and interpretation of findings in a holistic and integrated manner. Construct a logical, consistent argument based on the findings which analyses the information in the light of your research objectives and the literature that you reviewed.

Conclusions – Sum up your conclusions which can be drawn for your main points. Remember they must be based on evidence. Also indicate how firm the conclusion is. Conclusions links the analysis of your findings to your recommendations

Recommendations – This flows from your conclusions and ensures actions for the future. They should be realistic, timely and cost-effective and be supported by an action plan.

Evaluation/personal reflections – This is what your personal learning has been as a result of your research.

Bibliography/Webliography – Always list the sources used, reference them properly and fully to avoid plagiarism, whether intentional or not.

Now that you know how to do this, gather in your group and decide if the information should in fact be presented as shown above or as an oral presentation with posters.

Class Activity 3: Doing basic research
Please follow the instructions from the facilitator to complete the formative activity in your Learner Workbook.