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Upgrading student researchers' generic competencies in research methods pedagogy

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ABSTRACT

The journey of scientific investigation is a complex process whose success depends on the researchers' expertise and skilfulness in applying the appropriate methodology. Accordingly, it necessitates inquiry skills that are often trivialised in research methods curricula which frequently prioritise the instruction of methodological principles. Consequently, the current theoretical study which stems from first-hand experience attempts to highlight the importance of fostering the learners' generic competencies in the pedagogy of research methodology. First, it expounds the blueprint of the present article. Then, it presents the scholarly consideration of the content of inquiry methods course books, syllabi and lectures. Subsequently, it enumerates the main generic skills needed in the research process and exposes the necessity of developing the student researchers' investigative abilities via practical instruction. Moreover, a set of practice-based tasks designed by the author are suggested as an illustration of the hands-on facet of research methods courses directed to postgraduate students. Ultimately, the manuscript discusses the state-of-the-art appraisal of the significance of upgrading the learners' generic talents in inquiry approaches training.

Keywords: researchers' expertise, generic competencies, pedagogy, inquiry methods, practice-based tasks

Introduction

Research represents a knowledge-based pursuit that requires the application of a scheme entailing a set of theories and techniques required for planning and realising the inquisitive activities. The methodological principles are often presented in university lectures. Nevertheless, they are not functional in the absence of effective inquiry talents. Investigative skills can be viewed moderately as generic abilities; they have the propensity of being ingrained in particular areas; they concern a broad sphere including expertise, aptitudes and mindsets; they involve information, teamwork, investigative communication and reflective abilities (Goedhart et al., 2009, p. 62-63).

Every investigator should display certain traits which are requisite for the appropriate and acceptable management of inquiry; the majority of these characteristics are boosted via experience instead of intrinsically existing within a research worker (Reardon, 2006). However, the research methodology courses tend to de-emphasise the researchers' qualities. The pedagogy of the inquiry approaches routinely gives more importance to the different research strategies including the study design, the theoretical overview, the initiation of questions and hypotheses, the techniques of gathering information, quantitative and qualitative data analysis as well as the procedures of promulgating the results (McAnliffe, 2009). Conversely, it should emphasise the development of skills and attributes linked to research literacy. These aspects can be boosted by taking into consideration the know-what and the know-how.

Inquiry literacy refers to an amalgamation of literacies that grant scholars the capacity to gain, comprehend and implement the findings of scientific studies (Baudry & Miller, 2016). Its acquisition depends on the management of technical and generic abilities. Technical skills are equally labelled hard capacities. They represent discrete and educable potentials which are capable of being smoothly discerned and gauged; a handful of instances encompass conversing in a non-native language, typing pace, expertise in computer coding and hardware manipulation (Bourn, 2018, p. 46). Generic talents are also called non-technical competencies, soft capabilities, transferable skills or twenty-first century abilities.

During the second half of the twentieth century, soft competencies represented a prevalent concept referring to the potential that sets up the basis for establishing bonds and they were instructed at universities embracing progressive education; moving onward to the beginning of the digital age, the domain of coaching and improvement presently teems with the outstandingly indistinguishable transferable abilities to study, progress and apply (Kamin, 2013, p.8-14). However, soft talents tend to be overlooked in research methodology programmes. Accordingly, the present theoretical article aims at elucidating the role of developing and exploiting generic skills in the sessions devoted to the methods of scientific investigation. Its methodological framework is delineated in the following section.

The current manuscript blueprint

This article aims at exploring the role of developing generic skills in the research methodology module. It is based on ideas and information derived from first hand experience without relying on a sampled population. Theoretical articles employ prior studies beside the writer's own perspective on a topic (Yan, 2021). In this sense, the current study discusses the subject by providing secondary data as well as the researcher's explanations, illustrations and perceptions. It represents a non-empirical research work. Within the discipline of education, theoretical research which is also known as philosophical inquiry is generally called non-empirical research or desk-based inquiry; it covers concepts, notional routines, first-hand knowledge or issues (Fulford & Hodgson, 2016, p.10).

Non-empirical studies denote research that does not rely on empirical information and does not exploit studies that employ experimental data and, therefore, they are not generally contingent on evidence derived from real-life; essentially, they frequently capitalise on notional, speculative and introspective details and concepts (Kiteley & Stogdon, 2014, p.153). Accordingly, this article presents an assignment-oriented pattern that aims at boosting learner investigators' generic skills via the use of practical activities that allow them to put theory into practice. The design and development of the presented tasks stems from the researcher's personal introspection, contemplation and reflection as well as teaching experience relevant to research methods pedagogy because of having taught the module of research methodology to learners of English as a foreign language (EFL) at undergraduate and postgraduate levels for more than a decade, Thus, practice-oriented activities were introduced to develop the instruction of such a module. These practical exercises included problem scenarios and different tasks triggering the students' generic skills. These types of tasks have been exploited for instructional and assessment purposes.

The activities furnished in this article are devised by the author. They constitute an illustrative model of the types of exercises that can be exploited by teachers to develop the student researchers' generic competencies. These tasks may be directed to postgraduate students who need to develop their practical skills to produce acceptable research papers; moreover, the graduate students' acquisition of preliminary knowledge in the research methodology module at the level of undergraduate studies enables them to

perform these activities effectively. In fact, the application of the methodological principles can symbolise the substantial facet of the inquiry routines. Nevertheless, they are rarely underlined in the research methodology courses. Indeed, the instruction of inquiry approaches frequently focuses on the theories and techniques of scientific investigation. This idea is elicited in the subsequent section which concerns a brief overview of the research methodology teaching practices.

The pedagogy of research methodology

The instruction of research methodology is a strenuous process; it relies on the application of a variety of perspectives for the purpose of providing the learners with a prelude to an extensive array of theories (Strayhorn, 2009). Conventionally, lessons of statistical methods were exceedingly predominant; during the 1960s, research methodology emerged as a disparate educational programme (Peden & Carroll, 2009). Before the 1980s, the common teaching of inquiry at campuses revolved around the instruction of statistical techniques, quantification and empirical procedures; in the 1980s, qualitative inquisition secured supplementary significance (Demarrias & Lapan, 2004). Presently, the research methods training is based on teaching mixed methods approaches.

Distinct teaching practices are followed depending on the nature of the inquiry paradigm whose principles are targeted as educational themes. Quantitative research methods can be taught through lecturing; they may also be expounded via the concept-based strategy. Quantitative approaches are generally taught as a simple specific manner of orchestrating a systematic inquiry; such a perspective is commonly blended with a broad field and research techniques lectures training learners on the scientific approach and the way of planning and managing a study (Parker, 2011, p.40).

Multiple strategies are used to instruct student investigators to think about and undertake qualitative inquiry; several techniques aim at aiding the learners to discern and adopt qualitative premises and notions; other approaches target the promotion of the learner inquirers' abilities (Hansman, 2019). The holistic perspective is proposed as a technique for teaching qualitative research; it embodies a form of instruction based on various ways of amassing information like embodied learning, studying by logical thought and gaining knowledge via cogitation (Swaminathan & Mulvihill, 2018). The constructivist method is utilised in the courses of qualitative studies to empower the creation of erudition (Hansman, 2019).

The pedagogy of mixed methods inquiry is characterised by the existence of a diversification of educational exemplars including the sequential method and the convergent approach. The sequential method of teaching the pluralistic research design represents a three-way practice entailing the instruction of quantitative approaches and the pedagogy of qualitative techniques, in addition to subsequently teaching the learners the process of merging the quantitative and qualitative procedures to attain the mixed methods approach. The convergent method implies an instructional pattern that denotes a multi-stage procedure leading to the assistance of the learners throughout the different phases of the investigation itinerary using a blended approach (Watkins & Gioia, 2015).

In certain occasions, the overall research methodology lecture can incorporate either quantitative or qualitative techniques; conversely, it may encompass the two approaches (Parker, 2011). The syllabi of inquiry approaches are usually generated from the theoretical introspective studies of the expertise applied in research-based contexts instead of a thorough structured scrutiny of trained researchers (Schunn & Anderson, 2001). Teaching learner investigators about the indispensability of extending their ethical forethought is crucial (Swaminathan & Mulvihill, 2018). Research methodology course books and seminar

teaching focus on the ethical standards of the investigative conduct, statistical methods, inquiry approaches and the doctrine of scientific thought (Peden & Carroll, 2009).

The development of literacy on the instruction of numerical techniques and statistics has supplied appealing and indispensable materials to sustain a subject matter that represents a challenging topic to instruct (Parker, 2011). Although abundant written works concerning qualitative inquiry are issued, they commonly concentrate on strategies, assumptions and notions which led the comprehensive perspective of the practice of teaching qualitative exploration to remain considerably unaddressed; didactical issues concerning the pedagogy of the methodology of research on the whole persist in being negligible (Swaminathan & Mulvihill, 2018). The amount of handbooks and papers dealing with the theme of mixed methods inquiry drastically snowballs; a large number of these works furnish step by step techniques that are generally lacking clear-cut explanations of the pluralistic scheme and tackle the variation of combining numerical and non-statistical procedures (Hesse-Biber, 2010).

In fact, research methodology courses often rely on the elicitation of the philosophical and notional concepts of research that are essential for undertaking the inquiry activity. Conversely, the taught principles should be attended by the development of the researchers' skills which are tapped through written projects and presentations. Nevertheless, more prominence should be given to the investigators' transferable competencies. Indeed, soft skills can play an important role in the accomplishment of the research process. They are outlined in the next section.

Student researchers' generic competencies

Generic skills are acknowledged as the most important talents needed for acquiring creative potential and achieving favourable outcomes; however, they are downgraded in educational measurement since the core prominence is awarded to the testing of technical abilities and hard empirical knowledge. Technical skills are considered as a division of domain knowledge which constitutes the focal point of educational programmes; a standard number of soft skills encompass expertise in the entire disciplines (Scardamalia et al., 2012). Generic abilities generally imply thinking abilities and higher order cognitive skills along with twenty-first century talent and prospective community members' literacy (Tuononen et al., 2022). They are practicable in different pedagogical and real-life contexts. They correspond to an amalgamation of cognitive, metacognitive, social and emotional aptitudes (Reed, 2020, p.XI). Cognitive abilities entail:

- reasoning,
- critical thinking,
- problem solving ,
- decision making,
- curiosity,
- creativity,
- observation, and
- time management.

Reasoning constitutes an essential element in the inquiry activity (Drew et al., 2008). Critical thinking and problem solving typify indispensable cognitive tasks for research (Brown, 2016). A scientific investigation represents a set of activities impelling the investigator to opt for several decisions (Earley, 2009). Curiosity is the core of inquiry since it leads to questioning and searching for answers. Creativity boosts the generation of innovative research findings and suggestions. Observation entails perception which is a cognitive skill. It

is an essential foundation of scientific investigation. Time management represents a higher-order cognitive ability. It is perceived as a soft talent that constitutes a very crucial and valuable integrant in the research process. Indeed, cognitive skills constitute significant generic abilities that help the investigators to analyse and assess the research objectives and strategies, to solve problems, make the right decisions and supply innovative ideas.

Metacognitive knowledge consists of planning, self-monitoring and self-evaluation. Planning plays an important role in inquiry. Self-monitoring enables researchers to recognise their flaws. Self-evaluation helps the investigator to assess the quality of the produced research work. In fact, metacognitive knowledge is a very important component of the inquiry process as it guides the investigators in designing, supervising and appraising the different research phases.

Social competencies include collaboration and communication skills (Bourn, 2018). Teamwork is often needed in the inquiry process. Communication denotes an imperative investigative ability. It is based on the manipulation of the language skills: listening, reading, speaking and writing. The listening skill which is frequently regarded as an inactive ability is sporadically imparted in the research methodology lectures (Swaminathan & Mulvihill, 2017). It is essential for making scientific investigations as it is the basis of understanding especially when getting in touch with the participants. Speaking is needed to undertake interviews with the informants and present the research findings orally. The capability to undertake university level inquiry is contingent on the supplementary fundamental skills of reading and writing (Dennihy & Mohess, 2018).

In reality, social competencies enable researchers to interact with the participants, to develop knowledge and achieve successful information dissemination. Emotional competencies include self-awareness which is considered an influential psychological disposition; it symbolises a soft skill indicating a state of mindfulness. Emotional competencies help investigators to manage their reactions, identify their prerequisites and adjust their actions.

Information literacy constitutes a cornerstone of current internet-based investigations; it is an indispensable skill needed by future academics (Field-Rothschild, 2018, p.86). It concerns the identification, interpretation, evaluation, management and dissemination of data (Mammadova, 2022, p.138). Information and communication technology literacy encompasses cognitive skills and technical competence (Csopo et al., 2012). The distinct generic abilities are necessary to acquire the potential qualities required for taking the research journey. Accordingly, the teachers of research methodology should foster these skills via the use of practical tasks. This aspect is highlighted in the next section.

Generic skills stimulation in research methods courses

The methodology of inquiry is an important subject-matter that supplies researchers with knowledge about the way of undertaking a scientific investigation and presenting its results in an organised and systematic manner. Its pedagogy often turns around the inculcation of the principles of inquiry. It can become more practical by supplementing hands-on tasks that introduce the learners to genuine research contexts. These activities should give importance to the development of student researchers' generic competencies. They should not be implemented in isolation of the input presented in the research methodology courses; they have to be consolidated within these lectures by tapping these skills via practical tasks simulating research contexts calling for the application of generic abilities. For instance, the use of scenarios involving challenges faced by researchers while undertaking research not only necessitates the application of

reasoning, critical thinking and problem solving skills but also requires the mastery of the methodological knowledge relevant to the given context. The following subsections present a set of activities designed by the author of this article for the purpose of upgrading student researchers' generic abilities when teaching inquiry approaches.

Boosting cognitive skills

The teachers of research methodology should give importance to the learner investigators' cognitive skills by employing a variety of tasks. Contingent on critical thinking with creativity, problem solving is indispensable for adaptability; also, this is absolutely necessary for thriving in the 'Fourth Industrial Revolution' (Naidoo, 2021, p.2). Reasoning may be triggered via true/false exercises and premise-based argument questions. The following activity represents an instance of reasoning questions involving analysis and calculation.

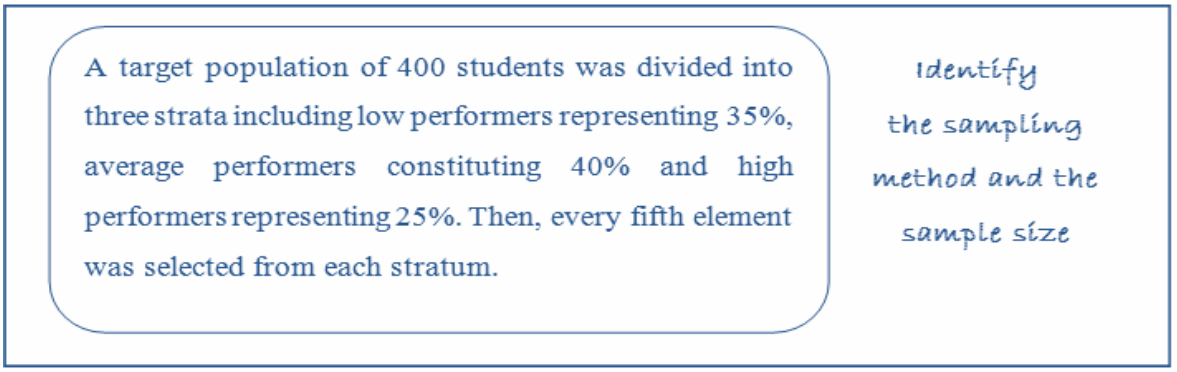

Figure 1 Reasoning task

Critical thinking can be enhanced through questions requiring the provision of explanations, the discernment of justifications and the formation of judgements. The following queries constitute examples of critical thinking practice.

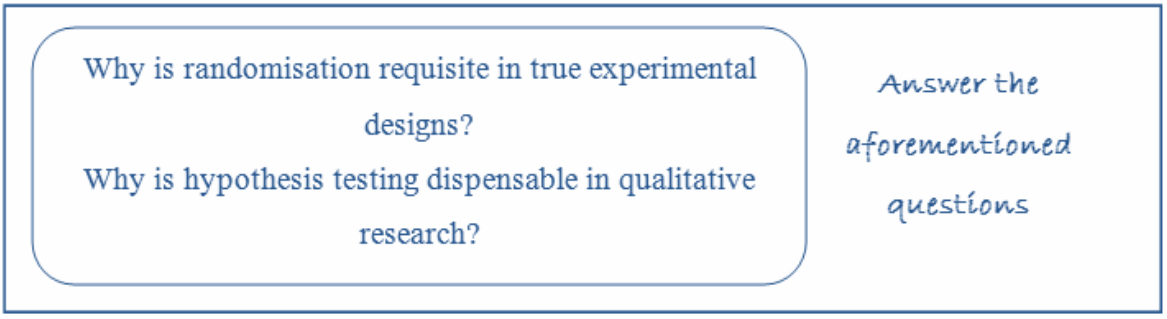

Figure 2 Critical thinking questions

Problem solving may be developed via tasks involving puzzles and problem scenarios. The activity provided in Figure 3 depicts a problem scenario urging the students to find alternatives in order to cope with a challenging research context.

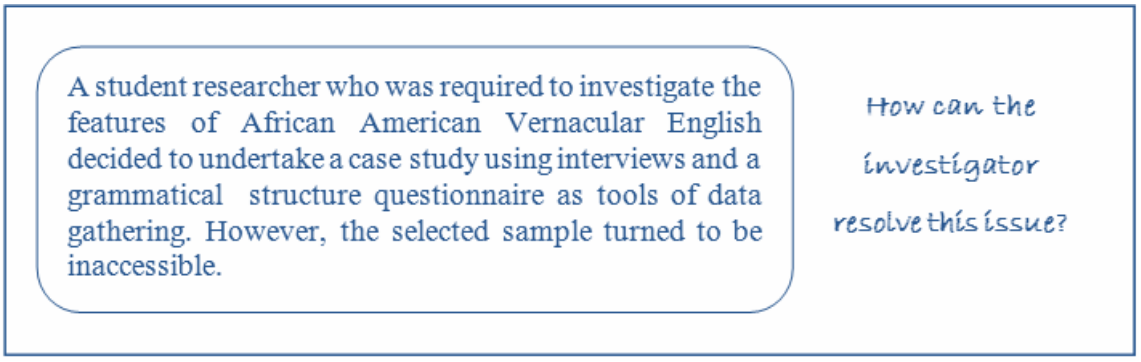

Figure 3 Problem solving exercise

Decision making can be enhanced through tasks involving the specification of options. An example of such a type of exercise is provided in Figure 4.

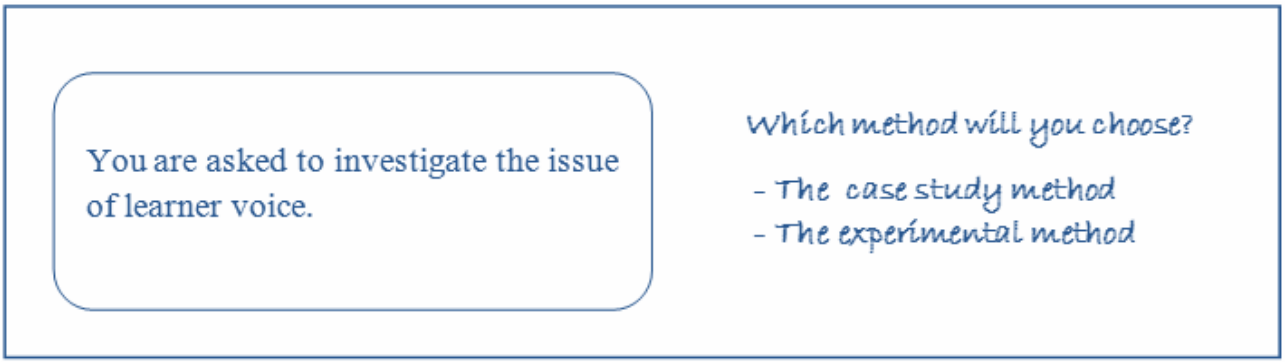

Figure 4 Decision making task

Curiosity can be promoted by questioning and discovering issues. The following exercise represents an illustration of this kind of activity.

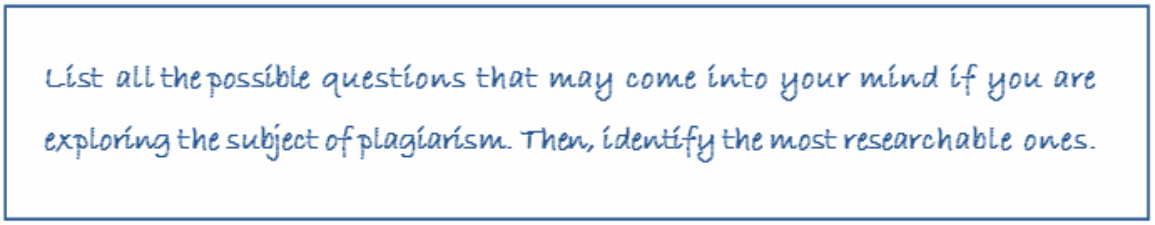

Figure 5 Curiosity related question

Creativity may be boosted via a variety of tasks such as brainstorming, mind mapping and creative writing. It can be tapped by asking the learners to generate subjects of inquiry as it is exemplified in the next question in Figure 6.

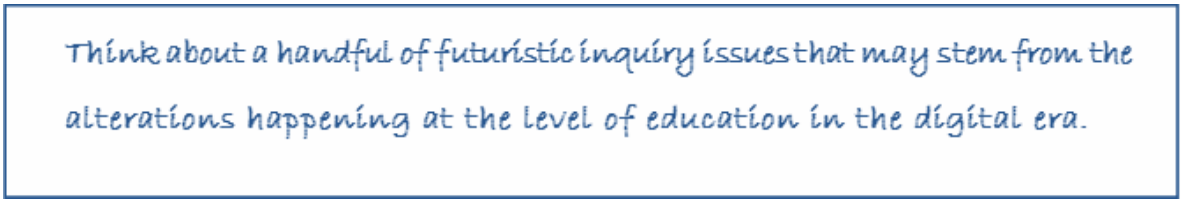

Figure 6 Topic generation exercise

Observation helps researchers to get a deep understanding of the studied phenomenon by excluding the participants' bias. Observational skills can be developed through various activities requiring the students to scrutinise pictures, to handle outdoor perception or to make classroom observation. An example of observation tasks is furnished below in Figure 7.

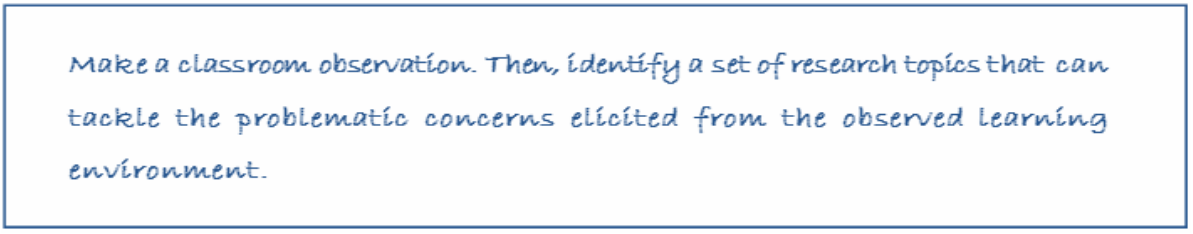

Figure 7 Observation assignment

Time management enables the researcher to promptly achieve the research objectives and present a well-organised research work. It may be practised via prioritisation exercises and puzzles entailing solutions within a finite time span. The subsequent figure displays instances of tasks targeting time management.

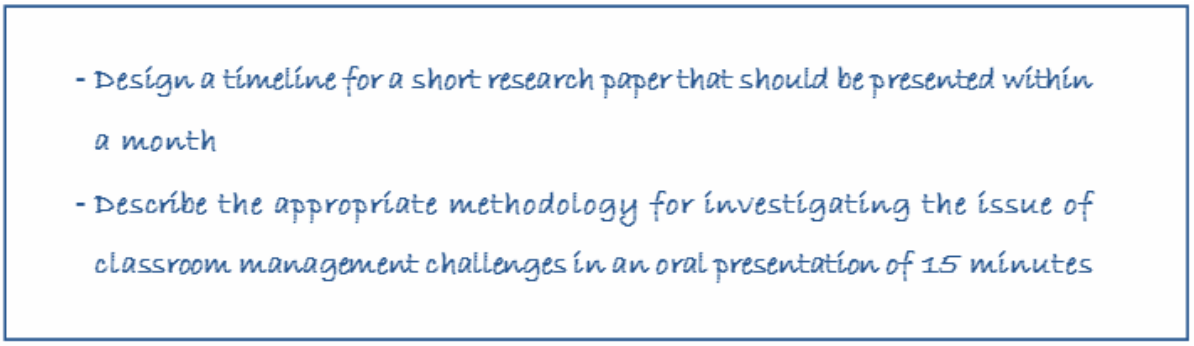

Figure 8 Time management activities

In addition to the reinforcement of cognitive abilities, it is necessary to boost the student researchers' metacognitive skills that are considered as essential generic competencies.

Fostering metacognitive knowledge

Metacognitive knowledge can be developed through the practice of various assignments requiring the students to plan, monitor and evaluate the research activities assigned to a specific scientific investigation. Planning may be improved through tasks inducing the learners to set goals and initiate schemes. The following exercise in Figure 9 constitutes a genre of planning assignments.

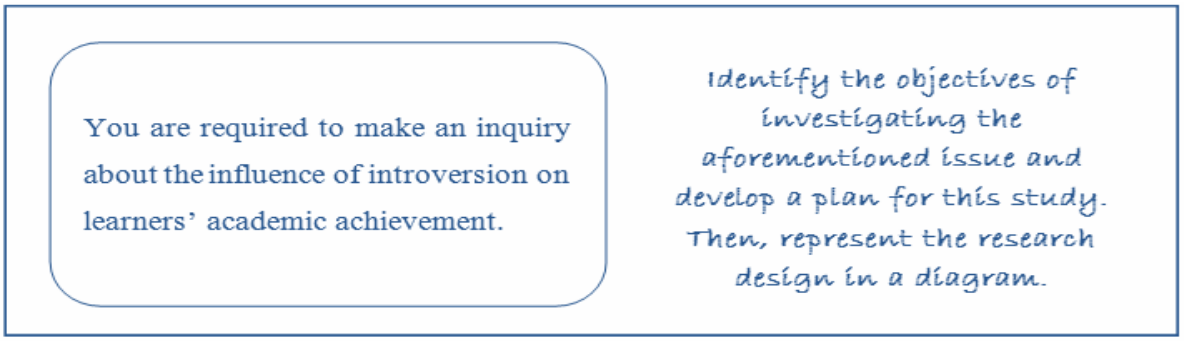

Figure 9 Planning task

The development of self-monitoring is necessary to ensure the success of the research process. It can take place through varied activities involving questioning and checklist design. An example of a self-monitoring checklist is provided in Table 1.

Table 1 Research design self-monitoring checklist

Criteria	Yes	No
The research topic is identified.		
The problematic issue is specified.		
The research paradigm is selected.		
The appropriate inquiry method is elicited.		
The research questions are formulated.		
The hypotheses are provided (If the researcher opts for a quantitative method or a mixed methods approach).		
The sampling procedure is selected.		
The sample size and characteristics are described.		
The research instruments are identified.		
The techniques of data analysis are elicited.		
The secondary sources are outlined.		
The time frame is established.		

The above table supplies an example of the elements involved in the process of checking and revising the components of the research design. The acts of reviewing and rectifying the aspects of chapterisation are illustrated in Table 2.

Table 2 Chapterisation self-monitoring checklist

Criteria	Yes	No
The objectives of the theoretical part are specified.		
The headings of the literature review section are outlined.		
Cohesive links between the subsections of the theoretical overview are taken into account.		
The purposes of the data collection section are elicited.		
The descriptions of the information gathering procedures are taken into consideration.		
The objectives of the data analysis section are identified.		
The descriptions of the data analysis techniques are outlined.		
Summaries of the research findings are considered.		
The objectives and constituents of the data interpretation section are delineated.		
The main suggestions and/or conclusions are outlined		

In addition to self-monitoring, self evaluation is also important when undertaking research. It can be fostered by asking the learners to assess their work and provide feedback on their own performance. Table 3 demonstrates a rubric denoting a form of a research project self-assessment sheet.

Table 3 Self-evaluation rubric

Descriptors / Criteria	Inadequate	Acceptable	Exemplary
Title	Very broad Lengthy	Specific Modest	Pinpoint Concise
Acknowledgements	Extensive Unorganised	Succinct Structured	Compendious Very orderly
Abstract	Ill-defined Unstructured	Detailed Organised	highly comprehensive Well thought-out
Table of contents	Uninformative	Comprehensive	Very informative
Introduction	Insufficient background information Disregarding the problematic Vague research objectives Non -researchable research questions Unverifiable hypotheses (in case of a quantitative or a mixed methods approach) Unstructured overall plan	Adequate background information Plainly identifying the problematic Clear research purposes Browsable research questions Precise and testable hypotheses Structured overall plan	Very ample background information Clear-cut problematic Very articulate research objectives Highly explorable research questions very verifiable hypotheses Highly well-organised overall plan
Literature review	Scant explanations poor synthesis inadequate referencing	ample explanations satisfactory synthesis proper referencing.	Very rich explanations outstanding synthesis impeccable referencing
Methodology	Vague and unorganised descriptions of the research design, sampling, research instruments and data analysis procedures	Plain and structured descriptions of the research design, sampling, research instruments and data analysis procedures	Clear-cut and well-organised descriptions of the research design, sampling, research instruments and data analysis procedures
Research Findings	inappropriate Unstructured	Significant Orderly	Highly significant Very well- structured
Suggestions and/or implications	Equivocal	Elaborate	Exhaustive
Conclusion	Vague Irrelevant	Plain consistent	Highly comprehensible extremely coherent
Bibliography	Insufficient Disjointed	Comprehensive Organised	Highly inclusive Very well-organised
Appendices	Incomplete	Thorough	Highly detailed

The aforementioned assignments are aimed at boosting metacognitive knowledge which represents an important component of generic competencies which also incorporate interpersonal skills.

Enhancing social competencies

The training of social talents should turn around communication and collaboration. The development of the student researchers' communication abilities embodies the improvement of their language skills including listening, reading, speaking and writing. Listening may be developed by asking the learners to listen to audio information and answer specific questions. An example of a listening assignment is provided below in Figure 10.

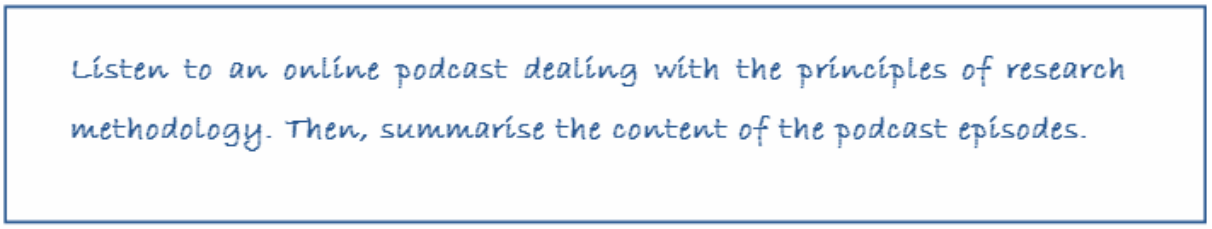

Figure 10 Listening exercise

Reading can be promoted via diverse activities requiring the students to read passages and answer distinct questions. The following task represents an instance of reading exercises.

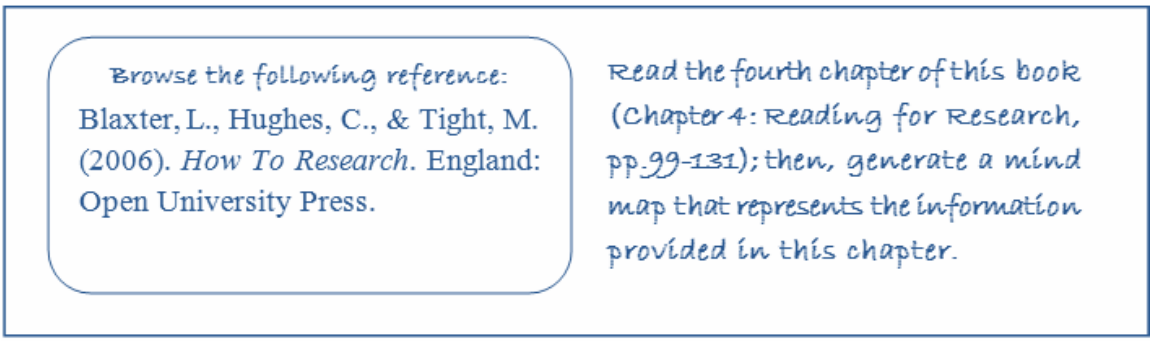

Figure 11 Reading assignment

Speaking may be reinforced through role plays, dialogues and discussions. An example of a speaking activity is provided below in Figure 12.

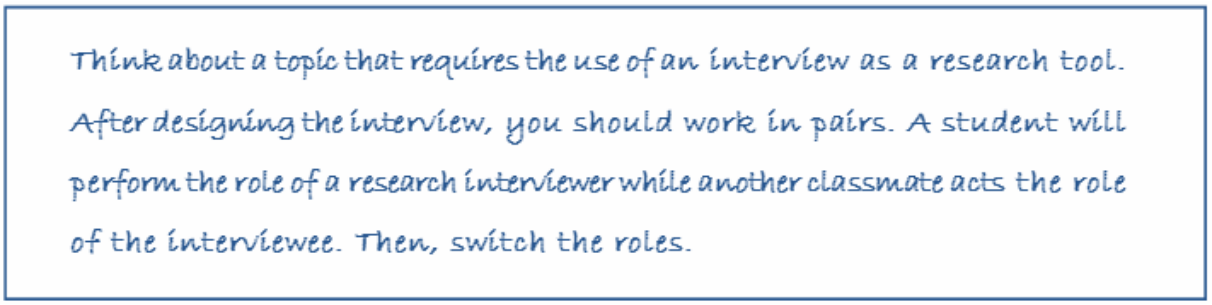

Figure 12 Speaking task

Writing can be developed via extended response activities involving essay questions or the production of research papers. Figure 13 provides an example of a writing task.

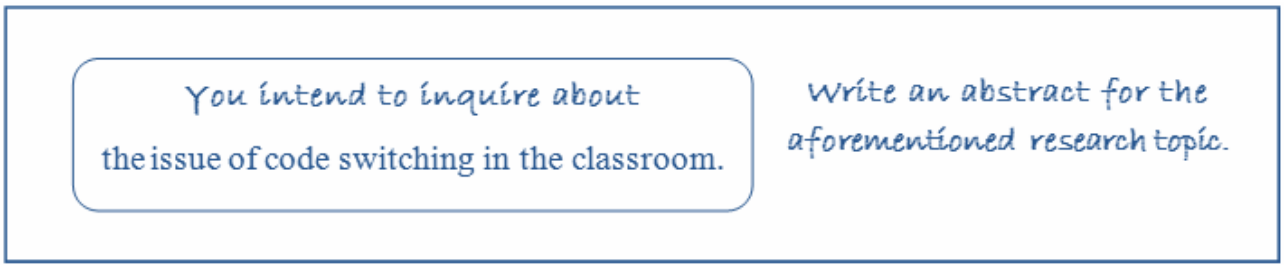

Figure 13 Writing activity

The mastery of the four language skills determines the effectiveness of communication which is considered as an important ability. Another significant interpersonal aptitude is collaboration which may be fostered through discussions, shared problem solving or project works. The following exercise in Figure 14 provides an instance requiring teamwork.

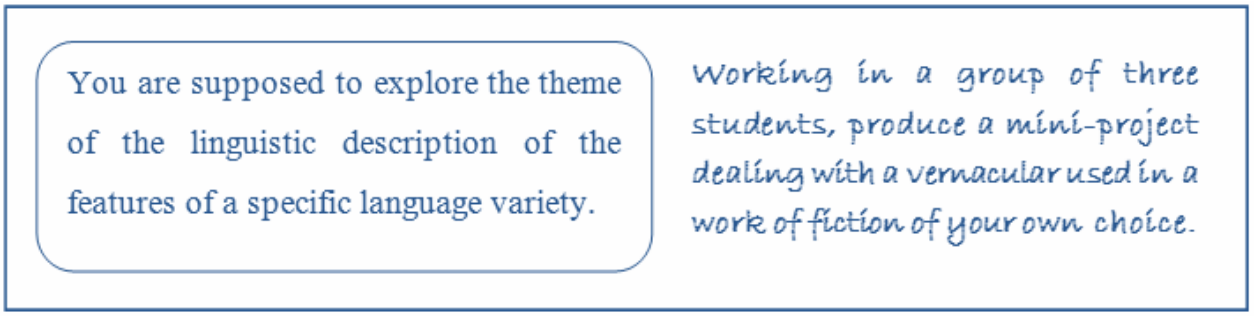

Figure 14 Collaboration assignment

One of the most prominent components of emotional competencies determining the success of the research process is embodied in self-awareness which represents a soft skill that enables student researchers to cope with their weaknesses, make appropriate choices when undertaking research and exploit self knowledge to reflect on their research practices. Self-awareness may be developed via a set of tasks involving self-questioning, retrospection, self-assessment exercises and reflective writing. The following activity in Figure 15 provides an illustration of a question targeting students' research potential self-appraisal.

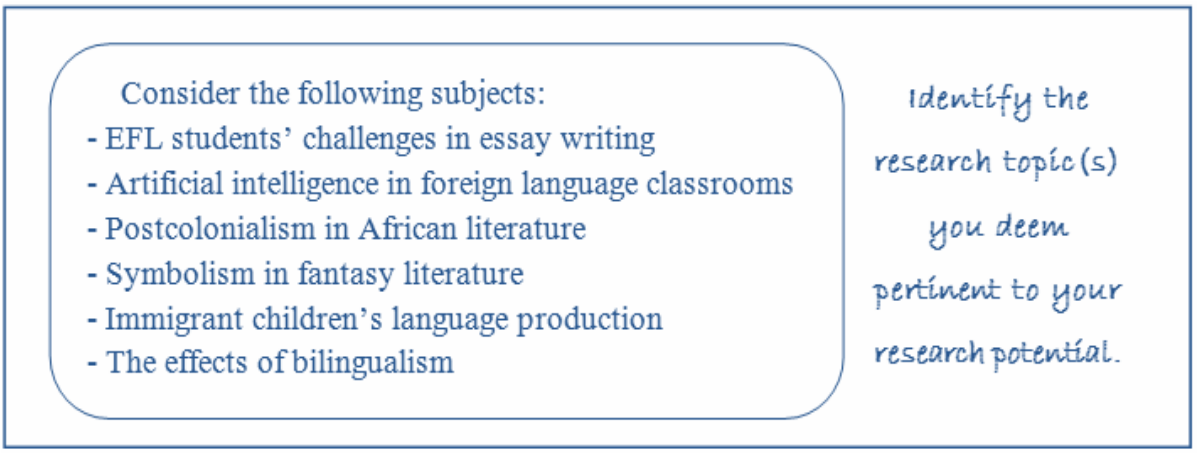

Figure 15 Student potential self-appraisal task

Indeed, self-appraisal represents a crucial factor in achieving satisfactory research results. In addition to the aforementioned skills, information literacy plays a significant role in the inquiry process. Accordingly, the following section sheds light on the importance of developing such a talent.

Promoting information literacy

The research journey revolves around the accumulation, analysis, and dissemination of data. Its success depends on the appropriate exploitation of information literacy which can be enhanced by asking the learners to collect, analyse and interpret data. An example of such a type of assignment is provided below in Figure 16.

Figure 16 Information literacy oriented task

In the present era, information literacy is closely tied to digital literacy which has to be acquired by twenty-first century investigators. In fact, digital literacy may be promoted via a set of activities entailing the acts of searching for information and filtering the obtained data. The subsequent exercise in Figure 17 represents an illustration of this kind of task.

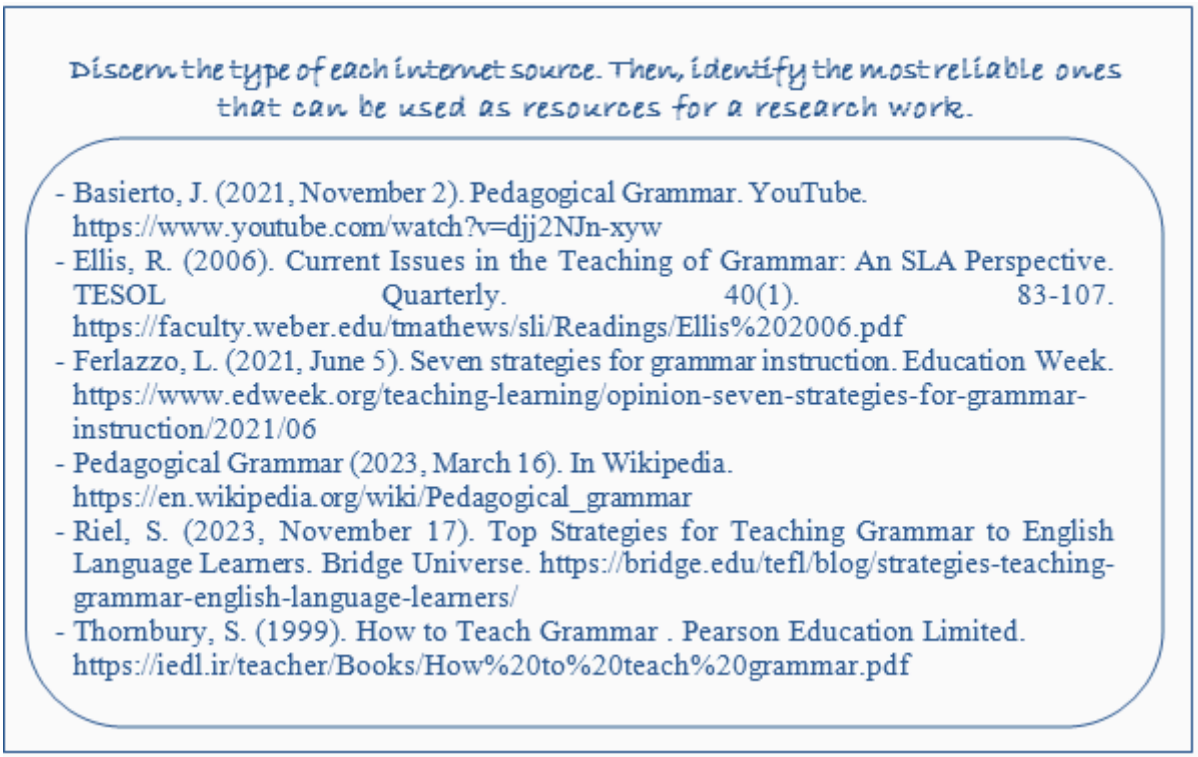

Figure 17 Digital literacy oriented assignment

The previously suggested tasks can be exploited in research methods lectures depending on the intended learning outcomes by varying and adjusting the activities to the course objectives and the targeted output. For example, if the course deals with research paradigms, explanations and examples are provided to introduce the learners to the different methodological approaches and at the end of the sessions tackling

such a theme, the students are given a task involving a scenario which displays a case of a researcher who adopts a quantitative research approach for investigating issues related to reflective teaching, then, they are required to criticise the presented methodology. In this case, the teacher gives the learners the possibility to practise their critical thinking skill, check their understanding of the taught material and gauge their ability to select the appropriate inquiry approach when undertaking research in real contexts. Generally speaking, the exploitation and refinement of the student researchers' generic competencies in the research methods courses can take place through the use of a set of assignments that urge the learners to put theory into practice. Moreover, raising the students' awareness of the necessity of developing their transferable talents may help them to manipulate the inquiry strategies in order to achieve good research results.

Discussion

The knowledge of research methodology is significant and indispensable to undertake scientific investigation. Nevertheless, its application depends on the investigator's skills which constitute a major factor behind the success of any research work. Inquiry approaches aptitude is viewed as a soft ability for career readiness (Swaminathan & Mulvihill, 2018) which is why it is necessary to train student researchers to expand generic skills needed to achieve various purposes during their inquiry journey.

Reasoning takes place in all the research phases starting from the choice of the topic up to the concluding sections. It has to be promoted by inducing the learners to use logic and be aware of the different types of reasoning involved in inquiry including deductive, inductive and abductive reasoning. Critical thinking enables investigators to assess their investigative plans and procedures; it should be highlighted within the research methods courses by questioning and discovering the motives for the selection of specific strategies instead of other alternatives. Problem solving is the nucleus of scientific investigation since researchers are supposed to perform a set of tasks that urge them to act as problem solvers. This competency may be triggered via inquiry scenarios. Decision making is also an important skill that can be developed by requiring the students to make choices concerning the appropriate research topic, methods, tools and strategies.

Curiosity is an exceedingly critical element. Consequently, student researchers should be trained to be inquisitive by constantly asking questions. Furthermore, they have to be encouraged to be thoughtful and inventive in order to stimulate their creativity which represents a fundamental aspect that helps them to tackle investigative issues in a genuine manner. Observation constitutes the mainstay of scientific inquiries as it gives the possibility to get details about attitudes, behaviour and experiences; it should be fostered via practical tasks urging the students to generate topics based on their personal observation of the environments surrounding them, to design observation checklists and undertake observational studies. Another crucial skill that is needed by researchers is ethical decision making which helps to achieve integrity and respect human rights. Ethical decision making can be practised by providing scenarios to the students and asking them to denote the kind of ethical behaviour they will adopt.

Supplementary salient inquiry abilities encompass project organisation, discussions and time optimisation; even if every one of these skills is learnable, and these talents are absolutely indispensable for investigators, they are rarely presented in research methodology handbooks (Kara, 2017). A recurrent difficulty facing young investigators is the acquisition of time and incentive in order to improve fundamental inquiry skills prior to the quest for further scholastic activities which can appear to be extra worthwhile at once (Roche, 2022). Indeed, time management also constitutes a soft capability that should be developed to help student researchers to guarantee the promptness of the investigative activities. This skill can be

boosted by raising the learners' awareness of the significance of research punctuality and encouraging them to become good time managers by setting priorities and scheduling tasks according to the specified time frame taking into consideration their potential abilities, the nature of the studied issue, the characteristics of the research instruments, the accessibility of the sample and the availability of the required sources. Metacognitive strategies have also to be highlighted within the pedagogy of research methodology through assignments that focus on planning, monitoring and evaluating the inquiry activities.

Every specified scientific investigation will be commenced by way of a multitude of abilities, assets and information gained from one's academic learning and personal knowledge up to the present moment; such competencies entailing hard skills like the manipulation of data procurement services including libraries and the World Wide Web as well as interpersonal abilities such as teaming up with classmates (Blaxter et al, 2006). However, some student researchers may lack social skills. Investigators should have the salient soft talents connected with being an excellent conversationalist, collaborator and the like (Tromp et al., 2009). Nevertheless, social abilities seem to be neglected when imparting the knowledge of inquiry methods to learners. Interpersonal relationships are scarcely unequivocally introduced in research methodology lectures (Garner & Serombe, 2009). Conversely, they have to be emphasised within the syllabi of inquiry approaches.

In fact, communication skills are also necessary for achieving successful scientific investigation since researchers need to read about the relevant literature, converse with the participants to collect data, listen carefully to them, record the minutes of interviews and write the research paper. They should be fostered via miscellaneous exercises that simulate investigative contexts involving the different language skills that should be manipulated to achieve specific research purposes. Moreover, collaboration which is often required when undertaking scientific investigation has to be enhanced through group work activities entailing a specific phase of inquiry or the production of a research work. Investigators have to be trained on interpersonal competencies in order to successfully exploit strategies and styles affiliated to the facets of intercommunication along with the aggregates it involves (Tromp et al, 2009). Furthermore, self-awareness is a significant soft skill that should be upgraded in inquiry methods courses due to its role in the ideal understanding of the individual orientation; it should be raised by recurrently advising the learners to ponder on their abilities and appraise their preferences to ensure that the selected research topics and/or instruments are not beyond their levels.

Information literacy is an important foundation of the research process. By the 1970s, information overload represented an expression that was introduced in conventional terminology well ahead of the existence of the internet; the fundamental duty of the investigator was to search for and extract each attainable noteworthy source or review for the studied issue. In the twenty-first century, the basic activity of the research worker is to circumscribe and manage the flux of data successfully (Ó Dochartaigh, 2012). The majority of university learners acquire a satisfactory basic training in inquiry approaches and statistical techniques, however, their learning programmes seldom deal with information management (Corti et al., 2014). Consequently, the reinforcement of information literacy should be emphasised by asking the learners to search for, analyse and interpret data.

The capacity to search out a large bulk of information about a subject has declined in prominence whereas the potential to filter these substantial works and single out limited amounts of indispensable references along with quotes has turned out to be a basic competency (Ó Dochartaigh, 2012). Accordingly, the manipulation of information and communication technology plays a central role in research. Digital literacy represents one of the most essential twenty-first century skills needed by researchers as it helps to supply

secondary data and provide ideas from previous studies that enrich the investigator's knowledge about the investigated issue and the pertinent research methodology. It can be developed by urging the learners to identify digital sources, recognise the most reliable materials and select the passages that may be used as quotes or paraphrases in a certain theoretical overview of the studied subject.

The previously suggested activities can be directed to graduate students to prepare them for achieving successful research works. They can be embedded in the whole programme of research methods by including a generic talent or a handful of skills within a specific lesson according to the relevance of the skill(s) to the course content and objectives. For example, if the lecture concerns the choice of a research topic, the students can be given exercises tapping the ability of decision making; observational skills can be highlighted in a lecture dealing with the use of observation as a research instrument.

Teaching in the twenty-first century requires the amalgamation of content pertaining to different topics and areas along with competencies for the digital era (Naidoo, 2021, p.4). The practice-based model presented in this article aims at providing insights about how to improve the teaching of research methodology module and help the learners to put theory into practice. Generally speaking; the development of the researchers' skills has to be taken into account when teaching the philosophy of research to ensure the proper application of the methodological principles as the latter can not materialise without the implication of the appropriate investigative strategies that hinge on the robustness of the investigators' generic abilities.

Conclusion

The knowledge of research methodology is centrally important to the process of scientific investigation and is often imparted in courses of inquiry. Nevertheless, it remains ineffective without the existence of an investigative aptitude that enables the researcher to put theory into practice. Therefore, research methods courses should not only focus on the explanation of methodological concepts and procedures but also take into consideration the act of strengthening the learners' soft abilities. Actually, the student researchers' generic competencies can be fostered via the exploitation of practice-based tasks that enable the learners to apply the theoretical fundamentals, develop their research expertise and get guidance on inquisitive strategies to become skilled investigators.

Indeed, research methods pedagogy has to accord more prominence to the formation of the researchers' abilities. Generally speaking, the process of teaching research methodology represents a tremendously vital act that should reflect the synergy between the instruction of the methodological perspectives and the training of the learners' transferable talents. Accordingly, this issue has been highlighted in this article which has attempted to denote the significance of boosting the students' generic competencies and to propose an assignment-oriented pattern embodying a variety of activities that can be used in courses of inquiry approaches to enhance learners' soft skills.

Biography

Rahmouna Zidane is a teacher at the University of Tlemcen, Algeria. Her main fields of research are: teaching practices, testing and assessment, research methodology and literary studies.

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