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ISSUES IN E-RESEARCH: LOG IN/OUT VIRTUAL FIELDS

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ABSTRACT

Evolution of technology and its tremendous use in education has changed the ways of educational services in higher education around the world. There is worldwide access to higher education through virtual learning environments. This is a new avenue for 21st century education and within a short time, it has been able to establish new culture of learning i.e. e-learning or online learning. As a result, e-learning has been the greater field for educational research. In this context, this paper focuses on methodological issues of the Internet mediated research (e-Research) with particular focus on virtual fields. Paper explores and discusses on possible sources of data, methods of data collection, process of analysis and ethical issues to adopt research with virtual fields. In doing so, the purpose is to reveal answer to the question: how do e-Researchers deal with methodological issues related to collecting data, determining data sources, data analysis/interpretation, and ethical considerations? Paper presents examples from the Internet mediated empirical studies. Conclusion of the paper is that e-field or cyberspace is an avenue for modern researchers. Researchers are supported with various Information Communication Technology (ICT) tools for field access, data collection, analysis and interpretation. However, they need to pay full attention to deal with major issues such as locating and gaining access to virtual/Internet-mediated fields, selecting e-participants and working with them, and using varieties of ICT tools for data collection, analysis and interpretation.

Keywords: **e-Research, virtual field, e-participant, e-data collection, cyber ethics.**

INTRODUCTION

The development and innovation of modern technology has changed the way people live, work, communicate and get education. The Internet has become a greater source of information and place for virtually socio-cultural activities. Those activities are reflected through social sites and other web sites or online communities. Scholars have started to define the Internet as culture and cultural artefact (Hine, 2000). Hine also suggests to use virtual ethnographic method to study emerging virtual communities and cultures.

These days in education, we can see the clear existence of two types of learning environments. One is 'virtual' and the other is 'real'. The virtual learning refers to the Internet-mediated learning and the real learning refers to the traditional campus-based learning. Actually, both the ways of learning are real as none of these are imaginary. Likewise, we do have two phenomenon of research. One is 'real field-based' and the other is 'virtual field-based' (Harrington, 2009). Along with the development of innovative Information Communication Technology (ICT), the ways of researching social realities have been changed because people deal with two lives at a time – online and offline. At this point, online world is important in relation to offline lives (Paechter, 2012). In addition, the Internet has been accepted as a social phenomenon, a tool, and also a field site for researchers (Markham, 2011).

Therefore, technology is an additional advantage for researchers as stated by (Buchanan, 2000), "using these technological advancements for research; both qualitative and quantitative, has created significant prospects for obtaining information from specific populations target groups, and communities previously obtainable or only with considerable cost time and effort or not at all" (p.1 as cited in Weeden, 2012). It means, regardless of the type of study design, researchers have technological weapons to dig into depth of their field with less effort, time and bigger size of target groups.

Research through electronic mediums such as computers and the Internet has been getting popularity. 'Virtual reality' has been a great field of research and electronic mediums e-mail, internet, web sites, web blogs, e-learning sites, social medias, web-based online surveys are the source of both primary and secondary data for many researchers. Researchers are privileged with hi-tech tools for research, "ICT offers researcher a new platform for interaction, with novel ways of creating and obtaining data" (Madge & O'Connor, 2002, p.91). Madge and O'Connor further highlight the electronic surveys as the Internet methodologies offering interesting possibilities for interacting with participants in innovative ways. Hesse-Biber and Griffin (2013) also clarified that the Internet-mediated research has capability of transforming traditional practice of research methods. Furthermore, using technology, researchers can disseminate important knowledge and understanding required for appreciation and respect regardless of geographical distance (Harrington, 2009).

In the aforementioned context, there exist various methodological and ethical issues within a particular subject of study and its nature, "the nature of researchers' participation, participant awareness and informed consent all need careful consideration, and solution to the attendant problems found within the context of the particular study" (Paechter, 2012, p.84). On the other hand, the Internet-based researches are considered as an important implication of evolution in the technology as Hesse-Biber and Griffin (2013) have highlighted the power of Web 2.0 technology to harness enabling promise for researchers even in the context of difficult and complex social issues using the Internet-mediated mixed method research. Likewise, Weeden (2012) agrees that use of the Internet in social work research is inevitable in the age of cyberspace.

In this paper, e-Research refers to the research using ICT, especially computers, web tools and the Internet as medium, tool or method. Alternatively, the research on the web-based fields where researchers' entry to the research field starts with web browsing or logging in and exits with logging out or exiting the web browser. To develop the paper, relevant literatures and scientific papers related to issues in the Internet-mediated researches are reviewed. In addition, Virtual ethnography purposed by Hine (2000) and Netnography proposed by Kozinets (2010) are analyzed because Hine claims that the method of virtual ethnography is suitable in e-Research with virtual fields. The field to observe and immerse into is the culture of the Internet valuing the Internet as cultural artifact. Likewise, Kozinets claims Netnography connects online and offline activities of research participants accepting that the research field exists behind the computer screen. However, concentrations of the paper lie on issues on e-Research in relation to the online learning culture rather than the culture as defined in anthropology and sociology. Following sections are thematically developed to discuss the major issues in e-Research.

METHODOLOGY

Together with the advancement of the Internet technology and web tools, methodologies of doing research are being changed. Web survey, email survey, big data research, web based case studies, virtual ethnography, Netnography, digital ethnography etc. are some examples

of changed form of research methods. On the other hand, these days, there is dominant use of hypermedia (hyperlinking and multimedia) in research (Dicks, Mason, Coffey & Atkinson, 2005). It is because technology is supportive to researchers in many ways.

However, there are some pertinent methodological issues to be considered while designing e-Research. "Internet-based research is a relatively new and growing field that presents a number of ethical challenges regarding privacy, confidentiality, and informed consent" (Battles, 2010, p.27). This paper does not limit discussion only on these three issues. Instead, the issues are presented in border thematic titles- Virtual fields: Loss of originality, e-Participants: Crisis of identity, e-Data: Big data, Analysis and interpretation: Logic for duality, and Cyber ethics: Piles of issues.

While designing research on virtual fields, researchers need to be aware of the following *five rules of virtuality* articulated by Woolgar (2002).

- **The uptake and use of the new technologies depend crucially on local social context.**
- **The fears and risks associated with new technologies are unevenly socially distributed.**
- **Virtual technologies supplement rather than substitute for real activities.**
- **The more virtual the more real.**
- **The more global the more local. (pp.13-21)**

These rules clarify social context and technology use, fears and risks with emerging technologies, virtual as supplement of real, and globalization as death of distance. The death of distance mean, with technology, global and local are not different entities of the world. This also indicates that the researchers have boundary less opportunity for research when they choose virtual fields for research.

It is for sure, e-Research has multi-dimensional prospects, "online virtual worlds, electronic environments where people can work and interact in a somewhat realistic manner, have great potential as sites for research in the social, behavioral, and economic sciences, as well as in human-centered computer science" (Bainbridge, 2007, p.472). However, e-Researchers have argued that there exist various issues that are to be taken care before designing e-Research projects. Key points on those issues are discussed in the following sections.

Virtual Fields: Loss of Originality

While considering e-Research definitely the research fields are different than the fields in the traditional 'real-field' (the field of physical travel) based research. For Rogers (2009), era of the Internet research does not put demarcation of real and virtual. However, researchers' field experiences are very important in ethnographic study (Holmes & Marcus, 2008). In this regards, field refers to virtual field which may consists of virtual community, online individuals, virtual organizations, real but all information are virtually available and accessible. Guimaraes (2005) states that the virtual fields are the palace where two-dimensional multimedia sociability platform provides an environment for synchronic interactions between users. Being specific to a method, Emerton (2003) states "for ethnography to be a valid research paradigm online, sites of computer-mediated human interaction must be understood –at least in part– as forms of community" (p.2). In addition, experimental e-Research may consist virtual groups, simulators and other high technology that provides exact real like experimental environment as Harrington (2009) completed a comparative research in real and virtual Trillium Trail.

In Harrington's study, a virtual field was created for research. However, study was completed in face-to-face fashion through ethnographic observation. The virtual field trip was an environment created for comparative experience of learners. In the virtual field, researcher

may get multiple options, freedom and navigational movement throughout their research project as in the "Virtual field trip" of Hartington. Places/fields in the Internet-based research has been defined by Emerton (2003) as follows:

> **Spatiality embedded in browser software greets the Internet user at the *home* page, helps them *navigate* the information *superhighway: back, forward, home*. Webpages use geographical metaphors: Geo*cities*, site *maps*. Interactive sites use architectural ones: chat *rooms*, cyber *lounges,* virtual *cafes*, furnishing them with familiar objects: *bulletin boards*, *visitors' books.* (p.3)**

Virtual fields are feasible for all kinds of research methods because electronic surveys, qualitative methods like participant observation, virtual and real experiences and virtual ethnographies have already been popular in the field. However, Hine (2005) states what constitute the field and how the researcher enters and operates within it are the key issues in online qualitative research. Entry to the field could be challenging for online researcher as there is no physical entry or exit from the community (Paechter, 2012). Paecheter further argues that it is challenging because of changing nature of virtual community, there are the possibilities of joining and dropping target online community by its user population. Therefore, understanding context sensitivity while locating virtual fields is important as Asdal and Moser (2012) highlighted the context and histories come together with the knowledge, facts, and objects.

Peachey (2010) has termed virtual reality as second life while presenting real life community in virtual world. It is beautifully articulated as the life that starts with "log in" and ends with "log out". Likewise, researchers enter into their research field by login and exit by logout. The virtual representation of real means possibilities of representing everything in virtual as it is in real. However, they are just representation in the form of 2D or 3D geometrical models/objects. Therefore, the virtual things might not reflect originality of nature within the subject or an object represented. Similarly, the issue in the field of virtual reality definitely lacks natural setting required especially for qualitative researchers.

The concept of Kozinets (2002), 'the field behind the screen' presents e-gadgets as connecter to virtual fields. When e-gadgets like laptop, tablets, and smart mobile phone are connected to the Internet, researchers find their filed behind the screen of those gadgets. The major issue to be considered by e-Researchers would be the nature (public or private) of the virtual field. Generally, websites are open to public but specific contents and user groups associated to the owner of the site may have private space. Therefore, determining the nature of the virtual filed is important in order to establish authentic filed access/connection.

E-Participants: Crisis of Identity

Participants in e-Research are the Internet users in one or other ways. They are found in the form of active or passive user in some of the online communities, web services and social media. Although, there are many benefits for researcher with e-participants and there are number of ways to reaching them, it is equally challenging to researcher in authenticating the participants. Participants in online research requires a common platform to share commonalities in terms of identity, values, rules, norms and association as in physical form of communities (Fernback, 1999). It is easy to point research participants in virtual community through their network. The best way of knowing about research participant would be "the more you wish to pinpoint an *actor*, the more you have to deploy its *actor-network"* (Latour, Jensen, Venturini, Grauwin, & Boullier, 2012, p.592). Users' network within any online community provides easy access to target participant(s) individual or group. However, their anonymous participation often creates dilemma to researchers' for identity of e-Participants. Identity information such as gender, age, ethnic group, education, nationality etc. are

important part of data in most researches but there is risk for researchers that e-Participants tend to misreport the information. For example, in an online survey, 45.7 % of participants misreported their age, sex and educational status (Akbulut, 2015). The misreporting has also been noted as an issue of 'Faking' by e-Participant in online surveys.

On the other hand, those e-Participants also interact with researchers through e-mail, audio/video/text chat, blog/forum post and personal websites. However, many researches have shown that mostly online users do not disclose their basic identity. This situation also creates problem in authenticating their presence. The researchers carrying research that does not require identities of participants may not encounter the issue of identity. For example, in blended learning context, depending on the nature of research, participants and their activities are comparable as they play dual role participating in face-to-face interaction or observation as well as online discussion as Makagon (2013) conducted discussions of lectures, course readings, and fieldwork reflection via an online forum.

Thus there are various aspects that e-Researchers need to consider. Mainly issues regarding participants while conducting online/e-Researches to be considered are the bases for participants like their identity, authenticity, geographical coverage, selection procedure, homogeneity (if required), and interest. Reviewed papers have focused on ethical parts related to participants which is discussed under the theme "Cyber Ethics" below.

E-Data: Big Data

There are number of technique of collecting e-Data. Online survey, text chatting, online audio/ video calls for interview, forum post for discussion, group calling/video conferencing for online focused group discussion (FGD), screen capturing, downloading graphics, recorded audio, video files or any other relevant file data (archives). As per the nature of the research, various tools and techniques for e-Data collection can be used. Qualitative researchers can design online interview, FGD, and participant observation of online communities and activities of the members. Likewise, quantitative researchers can design online surveys and experimental techniques on virtual vs real space as in the research of Harrington (2009). However, designed online tools may not be handy to the targeted participant. For example, a researcher wants using Google survey from or Skype video call for online interview but participant may not have skill of handling these tools. On the other hand, researchers themselves may lack skill of using new technology and methods of data collection as stated by Hesse-Biber and Griffin (2013), "accessing new modes of data collection may challenge a researcher to come out of his or her methods 'comfort zone' and to develop new skills in both data collection and analysis" (p.45). There is chance of losing data when participants lack technological skills. Likewise, researchers may not be able to identify appropriate tool for data collection if they lack knowledge and skill about latest technological tools available for e-Research.

Another issue comes for quantitative researchers on generalizing the finding from sample to population because in e-Research, population is not fixed and it is always changeable (Hesse-Biber & Griffin, 2013). For example, members of an online community may drop their affiliation at any time from the community or many new members may join the community. The number of people leaving and joining the online community under study are beyond the control of researchers. Hesee-Biber and Griffin also raised issue of losing meaning due to lack of face-to-face interaction while using the Internet technology in data collection. It is also hard to capture the emotions or "silence" through online interview tools which may result researchers' inability to maintain the trustworthiness.

Madge and O'Connor (2002), states that an added layer of deciphering emoticons and acronyms for real emotions and fuller expressions (like lol, omg, smile ☺ ...) are challenging while conducting online written interview because those symbolic expressions are hard to

interpret. Likewise, non-verbal cues, tone of voice, body language, and gesture all or some of these may be missing from Internet-mediated means of data collection (Hesse-Biber & Griffin, 2013) which are important for richness of the data in qualitative research.

As a result of popular use of the World Wide Web, e-Researchers encounter with big data (the flood of information). The bigger data obviously are problematic for processing unless there is new technique and wise tools to smartly assist e-Researchers in transforming such explosive amount of data into meaningful information and knowledge (Han & Kamber, 2000). Big data seems to be an issue to e-Researchers, depending on their research project, they have to be aware of database and data mining tools for proper management of the data.

Analysis and Interpretation: Logic for Duality

While choosing e-Research, novice researchers may be confused in selecting process of data analysis and interpretation. However, the statement of Woolgar (2002), "the more virtual the more real" is enough to exemplify that the technology bridges the gap of virtual and real setting. This provides an opportunity to adopt all possible research methods that are traditionally being used in the 'real' field-based researches. At this point, researchers are free to choose any process of data analysis and interpretation in line with the method they follow for e-Research.

Depending on the nature of data collected, strategies for analysis and interpretation can be adopted. For example, virtual ethnographers may use the process of data analysis and interpretation as guided by traditional ethnographies of physical field visit. For Netnographic research, Kozinets (2010), suggests to use hermeneutic analysis –starting with analytical coding (global meaning of individual elements). Here, hermeneutic analysis and analytical coding are the same strategies being used by qualitative researchers since long. In qualitative research, data analysis is considered as the process of making sense from the information collected "preparing the data, connecting the variables, and drawing deeper understanding, while presenting an interpretation of the larger meaning" (Creswell, 2009). Agreeing with Creswell, e-Researchers may collect data, transcribe audio interviews, screen shots and video data into text. Audio/video player and text/graphics processing software tools also are available to transcribe the picture, audio and video files. Those transcribed texts can further be analyzed for the themes in the first stage. In this process, researchers may use Creswell's idea that the researcher collects data, analyzes it for themes, and reports the findings.

Analyzing data obtained from online learning platforms and social media are already formatted in some ways. It is because technology enables user engagement through predefined activities in social media or any other web platforms which provides analyzable form of data offering to some forms of analysis (Marres & Gerlitz, 2014). Therefore, those data from the Internet would be easy to analyze and interpret. On the other hand, Chi (1997) has purpsoed method of analyzing qualitative data in an objective and quantifiable way as verbal data analysis. Chi has claimed that the purposed method is useful to analyse big qualitative data that includes verbal explanations, observations, and videotapings, as well as gestures.

After transcribing all data into text narratives, it is important to process and analyze in accordance with the outline laid down for the corresponding research questions. Qualitative techniques are transcribing, editing, coding, forming quotations and themes so that they are ready for analysis and interpretation. For this purpose, there are many computer software available that are focused on the area of qualitative data analysis (Flick, 2006). Likewise, quantitative researchers also have many options of software to assist mathematical calculation and statistical data processing. Spread Sheet and SPSS are popular software among quantitative researchers because the software come with highly sophisticated tools for any

kinds of statistical data management and analysis: data entry, data processing, generating tables, charts and reporting.

Furthermore, qualitative researchers give an extension to their analysis and interpretation through theoretical generalizability so that target audiences are able to assess the evidence in connection to their existing professional and experiential knowledge (Smith, 2008). Likewise, qualitative researchers have chances of blending knowledge from theory and literatures to the field data. Then, researchers may start interpretation for meaning making because the core essence of qualitative interpretation lie on meaning making process (Flick, 2006).

While processing and analyzing e-data, 'data mining' techniques are useful especially for quantitative researchers. There are data mining software for big data analysis. In general, data mining is also called knowledge discovery and in the knowledge discovery process, data are analyzed from multidimensional perspectives to arrive into knowledgeable information in the form of patterns or models (Messaoud, Rabaséda, Missaoui, & Boussaid, 2008). Likewise, Social Network Analyses (SNA) is also popular among researchers in social science. Social network is combination of actors and their relations or the relations defined on actors (Wasserman & Faust, 1994). The attempt of SNA is to explore relationships within and between social entities or actors in order to shape knowledge and learning process. In the context of e-Research, SNA is useful to simplify the study of network create through technology. For example, the study of the network of online and distance education where providers, teachers and students are group or individual actors.

Keeping all above discussions in mind, in order to deal with analysis and interpretation related issues in e-Research, researchers need to be clear on logic of dualistic arguments to justify the existence of the real and the virtual, truth and fiction, the authentic and the fabricated, technology and nature, and representation and reality (Hine, 2000). In addition, researchers are compelled to reevaluate the traditional taken-for-granted rubrics of social research because of the dialogic feature of social reality highlighted by emerging communication technology (Gatson, 2011). Therefore, dialogic and dualistic arguments are added value to clarify understanding the existence of 'virtual' and 'real' in the context of the e-Research.

Cyber Ethics: Piles of Issues

The term cyber ethics may be defined in various ways depending on the context of its use. Here, the term refers to all ethical issues related to e-Research and access to e-field or e-participants discussed above. Maintaining ethical issues in e-Research differs from traditional researches because of its ICT mediates facets. However, ethical standards of confidentiality practiced traditionally equally applies in online research (Battles, 2010). Moreover, it is hard to obtaining informed consent if participants do not want to disclose their identity in e-Research. Negotiating for informed consent creates distinct problems in the context of online environments Emerton (2003). Therefore, researchers need to be aware starting from initial communication with prospective research participants or the owner of the web site or online group or virtual community under the study.

There are piles of issues about ethics in relation to e-Research. Weeden (2012) raised major ethical issues such as participant enrollment; choosing right participant, avoiding selection of racial, sexual and cultural bias, verifying and tracking the participants, and inclusion. Likewise, maintaining anonymity and no interference by informed consent is difficult because of the unclear context of online research in varying available venues, and public information vs informed consent. The ways or media of data transmission and storage raises higher level of privacy issue. Other issues raised by Weeden are deception (lying, manipulation, misleading or exaggerating information) and avoidance of harm as participants cannot be seen by

researchers. On the other side, eliminating visual and auditory cues related to distress would be challenging when researcher and participants are virtually connected at distance.

Hesse-Biber and Griffin (2013) have suggested to the researchers to be mined full of the 'ethical caps' in between private/personal and public data. Paechter (2012) encountered the issue of verifying participants and conflicting role of researchers as insider and outsider in sensitive issues. Moreover, Emerton (2003) cites from NHMRC (1999) that in any context of research, researchers need careful consideration over physical, psychological, spiritual or emotional harm to participants, the exploitation of cultural knowledge and/or property, confidentiality or ownership rights attached to that information.

Thus, maintaining ethics is challenging job for researchers while selecting the methodology to undertake research in cyberspace. Nonetheless, it is wise to understand the reality of ubiquitous digital technology and media that draws widespread concerns about the 'bias' of online information and knowledge (Marres, 2015). In addition, it is also very important to consider rules of Woolgar (2002) that 'the virtual technologies supplement rather than substitute for real activities' while setting path for ethical issues on research that uses virtual field of studies.

DISCUSSION

Choosing methodology for e-Research needs clear knowledge about virtual or electronic fields, data collection software tools, methods of the data analysis and interpretation; skill of handling software tools required for the research, and advantages and disadvantages of the software tools. Field for e-Researchers would be the web tools and services, online communities and groups, and technological services and products. For example, scholar interested in online/distance learning can choose websites of online courses as field for the study. E-contents or resources for distance learners and student services at online/distance learning providers could be other fields for the study. Gatson (2011), presents five possible tensions for qualitative study of the Internet-mediated contexts (a) defining the boundaries of the field, (b) determining what constitutes data, (c) interpreting the other as text, (d) using embodied sensibilities to interpret textuality, and (e) representing the other ethically in research reports.

The form of data in the e-Research would be web text, verbal data, video recording, observational data, survey responses and numerical data from database etc. For the collection of those data, html text, audio/video interview, browsers, databases, survey form, chat room, discussion forums, web conferencing and email etc. are tools for data collection. Both qualitative and quantitative data collection and analysis software tool are available in different forms. For example, simple text processing and spreadsheet software can assist for higher productivity and analytical/interpretational efficiency. Without having good skills of handling these tools, planning for e-research is worthless.

E-Researchers get various advantages of technological tools. For example, researchers need not to travel physical distance for field visit and data collection. In many cases, use of technological tools for data collection and analysis are time and resource saving. A survey form can be distributed to thousands of respondents within a minute. Research fields and research participants can be connected at anytime from anywhere around the globe. Software tools for qualitative data analysis provides robust tools for coding, theme and quotation formation, and extraction of text from primary and secondary sources into desirable form. Likewise, increasing access to the Internet contributes to the volume of large scale survey research (Akbulut, 2015). It is because online surveys are easy to distribute, can be automatically collected, summarized and analyzed as soon as the responses are added into the designed

form. Major advantages of online surveys listed and discussed by Akbulut is preferable to e-Researchers who designs online surveys. For offline data, there are database tools for ease of data entry, processing and using out puts through desirable form, query and reports. Tabulation, graphing and general descriptive reports are auto generated with quantitative data analysis software applications like SPSS, and Excel Spread Sheets.

However, there are disadvantages of all technological tools for researchers. Major disadvantage would be time and devotion required to learn an additional skill to handle the tools. For qualitative researchers, currently available software tools such as NVivo, WebQDA, Atlas.ti etc. may not assist for meaning making process. Because, the process of meaning making is subjective and the software tools do not produce analytical result with subjective discourse. Likewise, in case of web technologies for data collection including online surveys, there are chances of fraud/fake entry, bad data (Akbulut, 2015) and no response. Akbulut has also suggested to examine predictors of undesirable responding patterns. It is important to review Akbulut's lists of major limitations of online surveys to better understand shortcoming. If the tool is designed for open communication, there is higher risk of getting fake data comparison to the closed communication because of identity of the respondent. Data provided in one-to-one communication may differ from the data provided through open forum discussion. Another disadvantage would be the poor technology and slow Internet connection at the end of the both researcher and research participants.

For qualitative researchers, 'presenting data qualitatively' has been the major issue as Hammer and Berland (2013), presented their critique on confusing practices in qualitative research that researchers present text as data after they apply coding schemes, describing the coding scheme and illustrating that with examples, then presenting result of the coding as the data. Instead, for Hammer and Berland, data means the qualitative records, not the results of coding. In order to avoid this danger of quantification of qualitative data through coding, e-Researchers with qualitative design can detailed out methodological process and present the body of data as it was revealed from the field.

CONCLUSION

Virtual field or cyberspace is an avenue for modern researchers with number of supportive ICT tools that assist field access, data collection, analysis and interpretation. There are many research opportunities with varieties of option to locate fields, get into the field, choose participants, collect data, analyze and interpret data using varieties of online/offline ICT tools in any types of e-Research design. Terminologies: low cost, no cost, time and resources saving, access to ample literatures are enough to describe benefit of e-Research. However, careful investigation on the possible shortcoming would lead to an excellent research outcome. If the Internet is the culture and cultural artefact as stated by Hine (2000), ethnographic study with virtual field would be an appropriate design inconsideration with the notion of 'virtual does not replace face-to-face'. Nonetheless, Netnography of Kozinets (2010) shows a clear methodological blueprint to combining participants' online and offline context.

Changing nature of cyberspace users, unpredictable population leading to complex sampling, difficulty in verifying the identity of participants, fake reporting, mode of data transmission and security, digital divide among target participants and researchers themselves, inability of capturing emotional feeling while conducting online interview are the major issues to be clear and well informed before starting e-Research projects.

E-Researchers are privileged of using any means of ICTs for their support through entire process of research: designing projects, field work and reporting results. Any type of research design qualitative, quantitative or mixed would be feasible in the context research mediated

with ICT means especially computers, the World Wide Web and the Internet. For educational researchers, e-Research design best fits in the context of online and distance learning as well as the blended learning environments.

Scholars these days are creating methodological paradox through various arguments to establish their own way of doing the Internet mediated research. For example, just for ethnographic e-Research, the claims are 'virtual ethnography', 'netnography', 'digital ethnography', 'cyberethnography', 'discourse-centered online ethnography', 'internet ethnography', 'ethnography on the internet', 'ethnography of virtual spaces', 'ethnographic research on the internet', and 'internet-related ethnography', 'visual ethnography', and 'ethnographic hypermedia' etc. For this author, there is no significant difference in these various methodological claims rather than the use of ICT especially computers, the Internet and the World Wide Web in different form and context of research. Therefore, further researchers need to avoid producing such confusing claims/arguments.

E-Research is useful for those researchers who want to explore any researchable issue on and about ICT, be it computer technology, the World Wide Web or the Internet. In education, e-Research is better option for the scholars working in the field of open/distance education, and the Internet mediated teaching and learning context (for example online learning with open and or closed courses). Meanwhile, the connection of e-Researcher with non-technological aspects of life for wellbeing of humanity through research is always important.

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