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Editorial

A snap shot on qualitative research method

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This paper presents an overview of different research paradigms that are used in research. The aim of this article focuses on qualitative research. Qualitative research has gaining momentum for the past decade or so. Unfortunately, not many people fully understand how to conduct a well designed qualitative research. It is hoped that this article can provide some guidance and assistance to those who wish to embark o qualitative research.

Key words: Paradigms, qualitative, quantitative, case, interviews, reliability, validity, ethics.

BACKGROUND

The author has been with Education Research Reviews Journal first as a peer-reviewer, then assistance editor and now Editor-in-Chief. Over this time, he came across quite a few manuscripts and felt that while most of the quantitative researches are of high quality, there appears to be a lack of understanding on how to conduct a qualitative research.

The purpose of this article is then trying to provide a blueprint for research methodology using qualitative research method. It is hope that this article can provide some insights to how qualitative research should be conducted.

The article starts with discussion on different research paradigms, followed by research method, such as qualitative and/or quantitative. Arguments on qualitative research as well as case building are discussed. The most important aspects of qualitative research protocol are highlighted.

Different paradigms used for research

The first step in research design is to choose the

research paradigm that would be most suitable for the research. Four major research paradigms of *positivism, constructivism, critical theory and realism* are discussed.

A paradigm is 'an understanding or view of the world and is used to determine what problems are worthy of research exploration as well as what methods are available to contend with these research problems.' (Perry and Cavaye, 2004, p.2.2). Therefore, as suggested by Guba and Lincoln (1994, p.105) a paradigm is a 'basic belief system or worldview that guides the investigator.' There are many paradigms being developed to guide research with most of these paradigms based on qualitative and quantitative beliefs, while others such as Burrell and Morgan (1979) argue that there are three levels to the approach: the philosophical level, which reflects basic beliefs about the world; the social level, which provides guidelines about how the researcher should conduct his or her endeavour; and the technical level, which involves specifying the methods and techniques which should ideally be adopted in conducting research. Easterby-Smith et al., (1991) classified paradigms as positivist and phenomenological based on their deductive and inductive orientation. Guba and

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Lincoln (1994), Perry et al. (1999) summarised the paradigms into four categories that could be used to guide research: positivism, constructivism, critical theory and realism. In the following review, each paradigm will be discussed in terms of its ontology, epistemology and methodology.

The following table based on O'Leary (2001, p.65) summarises the four major scientific research paradigms.

Positivism

The ontology of positivism (Table 1, column 1) holds that that social world exists externally, and that its properties can be measured through objective methods. It also holds that knowledge is only of significance if it is based on observations of this external reality. (Easterby-Smith et al., 1991, p.22). The primary role of the research enquiry is based on theory-testing (deduction). This paradigm also focuses on measurement and analysis of causal relationships between variables that are consistent across time and context. (Perry et al., 1999, p.16-17; Easterby-Smith et al., 1991; Ticehurst and Veal, 2000) The primary data collection techniques include controlled experiments and sample surveys, which are outcome-oriented and assume natural laws and mechanisms. In other words, the positivists are concerned with the confirmation or disconfirmation of a theory.

The epistemology perspective requires the researcher to be separated from the research process so that he/she views the world through a 'one way mirror' (Guba and Lincoln, 1994, p.110) and to maintain value-free and theory-free. The other advantages of this scientific paradigm include wide coverage of the range of situations: it can be fast and economical and is statistically orientated so that credibility is assured. (Easterby-Smith et al., 1991).

The methodology for this paradigm is to achieve its aims through well-structured experiments and surveys that can be controlled by the researcher and are aimed at verification or negation of theoretical hypotheses.

Constructivism

The ontology of constructivism (Table 1, Column 2) proposes that truth is subjective as opposed to the positivists' singular and objective views. In this paradigm, truth is based on individuals' perceptions of reality - 'truth is a construction which refers to a particular belief system held in a particular context...Meaning has more value than measurement, for perception itself is the most important reality...constructivism enquires about the ideologies and values which lie behind a finding. Researching this created knowledge depends on the interaction between interviewer and respondent. (Perry et al., 1999, p.18). The epistemology perspective calls for the

researcher and respondent to create findings jointly. (Lincoln and Guba, 1985).

The methodology of this paradigm holds that the researcher must be fervently involved during the research purpose and requires the researcher to become a 'passionate participant' (Lincoln and Guba, 1985, p.17; Perry et al., 1997; Perry et al., 1999). The research instrument used is based on dialogue and consensus. (Lincoln and Guba, 1985)

Critical paradigm

The ontology of critical theory (Table 1, column 3) is one of historical realism. This paradigm assumes apprehensive social realities, incorporating historically situated structures. Within this paradigm, the researcher aims at 'critiquing and transforming social, political cultural, economic, ethnic and gender values.' (Perry et al., 1999, p.17).

The epistemology is the researcher's ability to interact with the research participants. Research is based on perceptions held by group of individuals. The process depends on the researcher's expertise, experience and his/her ability, with the aim to transform the ignorance and misconception into a new, informed perception. (Guba and Lincoln, 1994).

Realism paradigm

This is the final paradigm. The ontology of realism suggests that the external reality is probably true, rather than completely true. It suggests that there is a 'real' world to be discovered even if it is only imperfectly and probabilistically apprehensible. (Guba and Lincoln, 1994) Whilst 'constructivists and critical theorists consider there are many realities, realists consider that there is only one reality although several perceptions of that reality must be triangulated to obtain a better picture of it' (Perry et al., 1999, p.18).

Realism research is to examine human behaviour and to answer the "how" and "why" questions in dealing with a particular issue/problem. Information obtained from this type of research cannot be claimed as conclusively representing reality, but rather a 'window' through which this reality may only be imperfectly apprehended. (Perry et al., 1999, p.18).

Further, the researcher is neither isolated from the research, as the positivists contend, nor attempting to be passionate and attempting to transform the findings (like constructivists and critical theorists). Rather, the researcher is part of the research but remains as objective as possible through the research process - he or she cannot be completely value-free but can aim to be value-aware. (Perry et al., 1997).

Within this paradigm process, the researcher uses case

Table 1. Principal research paradigms and associated views

	Positivism paradigm (1)	Constructivism paradigm (2)	Critical theory paradigm (3)	Realism paradigm (4)
Ontology	Science is able to discover the true nature of reality. There is a single apprehensible reality whose nature can be known and characterised.	Relativism-truth is subjective, based on the individual's perceptions of reality, resulting in a state of multiple realities	Social realities are apprehensible based on historically situated structures. Focuses on analysis & transformation of social, political, cultural, economic, ethnic and gender values	Critical realism-reality is apprehensible but can only be imperfectly and probabilistically comprehended.
Epistemology	Observer is separate from the research process; findings are value-free & may be generalised to entire population. Theory-free, findings true	Researcher and respondent create findings jointly; researcher and research subject are mutually interactive.	Interactive link between researcher and research object. Reality is based on perceptions held by group of individuals.	Researcher is part of research process, but remains as objective as possible. Modified dualist /objectivist. Findings are probably true.
Common methodologies and processes	Experimental manipulative; verification of hypotheses; chiefly quantitative methods such as experiments / surveys.	Depends on a researcher being a 'passionate participant' in research process; consensus; dialogues. Principally qualitative.	Depends on the interpretative ability of scholar who is a 'transformative intellectual'; focus groups. Principally qualitative.	Depends on triangulating several perceptions of reality to capture a better picture of phenomenon. Modified experimental / manipulative; case studies / convergent interviewing. Principally quantitative, but may include qualitative techniques.

Source: O'Leary (2001) unpublished DBA thesis, who adapted it from Perry, Riege and Brown (1999); Master (1999); Perry, Alizedeh and Riege (1997); Guba and Lincoln (1994); Hunt (1993); Lincoln & Guba (1985).

studies/convergent interviews based on qualitative analysis technique, in order to present a fair degree of confidence of its findings to represent the reality without claiming fully that they are reality. (Perry et al., 1997).

Qualitative research

Comparison between the choice of methodology that is part of a paradigm: quantitative and qualitative.

In summary, quantitative research is based on presentation of statistical information. That is, a research methodology that involves statistical analysis. 'It relies on numerical evidence to draw conclusions or to test hypotheses. To be sure of the reliability of the results it is often necessary to study relatively large numbers of people or organisations.' (Ticehurst and Veal, 2000, pp.20-21) The statistical significance levels of the findings can then be generalised.

In answering the research questions, quantitative research aims to answer the '*what*', '*who*', '*how much*' and '*how many*' questions - explanatory in nature, whilst qualitative research aims to answer the '*why*' and '*how*' questions - exploratory in nature.

Further, the key concept of quantitative research is in dealing with variables, so that there is a link between data and variables. (Punch, 1998). On the other hand, qualitative research deals with subjectively constructed rather than objectively determined. It is not concerned with statistical analysis. It involves gathering a great deal of information through small numbers of people or organisations. It is based on the beliefs that 'a full and rounded understanding of the organisational experiences and situations of a few individuals, however unrepresentative they may be, is of more value than a limited understanding of a large, representative group'. (Ticehurst and Veal, 2000, p.21) 'Qualitative data can be defined as empirical information about the world, not in the form of numbers.' (Punch, 1998, p.59)

Furthermore, unlike the statistical findings of the quantitative methods, the findings of qualitative research are not to be used to test a theory; rather they are used to build a theory or to identify a phenomenon for further research.

Research design

Research designs are about organising research

Table 2. Key choices of research design

Researcher is independent	vs	Researcher is involved
Large samples	vs	Small numbers
Testing theories	vs	Generating theories
Experiential design	vs	Fieldwork methods
Verification	vs	Falsification

Source: adapted from Easterby-Smith, Thorpe & Lowe (1991)

activities, including data collection, in order to achieve the predefined research aims. Table 2 summarised the five key choices for research design.

Qualitative methods are required to explore this complex issue in depth, in order to gauge peoples' behaviour and attitude when faced certain situation. Further, when the extent of theory development relevant to the research is considered to be low, then 'case study' is a suitable strategy for theory generating. The information obtained could assist in theory building that might be further examined through quantitative methods.

Secondly, the type of information obtained for the purpose of this research can only be gained from in-depth detail of the participants' attitude and behaviour. '... the need to delve deep to gain an understanding of the phenomenon.' And 'the depth and detail of qualitative data can be obtained only by getting physically and psychologically closer to the phenomena through in-depth interviews...' (Perry et al., 1999, pp. 20-21)

Defining and justifying the use of 'case study' research

Having selected the research paradigm and a qualitative research method, it is now necessary to apply this methodology for data collection and analysis - the qualitative 'case study' methodology within the realism paradigm.

Definition of case study research

A case study is a description of a management situation over time that provides a rich description of the situation. Case study is defined as a 'research strategy that focuses on understanding the dynamics present within single settings'. (Eisenhardt, 1989, p.534)

Yin (1994), however, focuses on case study research as actual processes and the use of case studies as a researching tool. He defines case study as:

'...an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence

are used; and should not only be looked upon as a data collection tactic or solely as a design feature, but also as part of a comprehensive research strategy.' (p.13)

Perry (2001, p.305) synthesises some of the literature and define case research as:

1. an investigation of a contemporary, dynamic phenomenon and its emerging (rather than paradigmatic) body of knowledge (Eisenhardt 1989; Yin 1994; Romano 1989; Chetty 1996; Gable 1994; Bonoma 1985)
2. within the phenomenon's real-life context where the boundaries between the phenomenon and context under investigation are unclear (Bonoma 1985; Chetty 1996; Stake 1994; Yin 1994)
3. when explanation of causal links are too complex for survey or experimental methods (Eisenhardt 1989; McGuire 1997) so that single, clear outcomes are not possible (McGuire 1997)
4. using interviews, observation and other multiple sources of data. (Bonoma 1985; Perry 1998; Robson 1993)

Case research methodology

This section justifies the strategies adopt in choosing case study as the research tool. Yin (1994) proposes that the choice of the right research methodology among the five strategies, namely histories, experiments, archives, surveys and case study, is dependent on satisfying three situations. These situations are: the type of research question posed; if the research requires the researcher to have direct control of the participants' behaviour; and the degree of the research focus. Table 3 summarised these three conditions.

Form of research questions posed - the research questions 'how' and 'why' are better addressed by experiment or the case research method. "If you were studying 'who' participated in riots, and 'how much' damage had been done, you might survey residents...or conduct a 'windshield survey' of the riot area. In contrast, if you wanted to know 'why' riots occurred, you would have to conduct [case research] interviews and draw upon a wider array of documentary information." Yin (1994, p.8).

Further, case research methodology usually addresses research problems within the realism paradigm (Perry et al., 1999) and tries to explain things (phenomenon) rather than measure them.

That is, the research problem is a usually a "how and why" problem. Yin (1994, p.18) states that "how" and "why" questions [in case research are] ... exploratory ... such questions deal with operational links needing to be traced over time, rather than mere frequencies or incidence ...' that are used in quantitative research such as surveys. Thus, case study research usually involves a relatively complex, social science issue about which little is known. (Carson et al., 2001) Therefore, the purpose of

Table 3. Three conditions for determining the appropriate type of research method

Research method	Form of research question	Requires control over behavioural events?	Focuses on contemporary events?
Experiment	How, why	Yes	No
Survey	Who, what where, how many, how much	No	Yes
Archival analysis	Who, what, where, how many, how much	No	Yes/No
History	How, why	No	No
Case Study	How, why	No	Yes

Source: adapted from Yin (1994)

this research is of exploratory nature, with an attempt to understand and define ethical behaviour in business. The data obtained could be used to develop a frame of reference and definition of the problem/phenomenon under study and to engage in detailed examination of its implications.

As with the positivist, those who require a significant degree of control over behavioural events should use the experiment method. Those who cannot control events should use the case research or survey method because these two methods do not allow control over what is going on in the real world. Case study methodology is most suitable when the researcher attempts to understand the complex contemporary events in certain behaviour, whereas the researcher has no control over the dynamic behaviour and variable under investigation. (Bonoma 1985; Yin 1994).

Because this research is focused on the contemporary issue and an attempt to develop an understanding of the phenomena, the case study research method is appropriate choice. Further, case research does not only focus on gathering information on contemporary events but also allows the researcher to obtain in-depth information, as well as providing tremendous details on the research topic. (Patton 1990).

Therefore, case research is the appropriate choice when the research is focused on contemporary issue under investigation, the researcher is unable to control the behaviour and the research is attempting to answer the 'how' and 'why' questions, as illustrated in Table 3.

Criteria for judging quality of case research

The previous section discusses the use of case research for research. This section discusses the criteria that are applied to establish reliability and validity.

Under the positivist paradigm, the quality of research is usually judged on five criteria: construct validity, objectivity, internal validity, external validity and reliability. (Eisenhardt, 1989; Yin 1994).

Although six other criteria – namely: ontological appropriateness; contingent validity; multiple perceptions of participants and of peer researchers; methodological trustworthiness; analytic generalisation; and construct validity - have recently been built upon the logic of realism paradigm (Healy and Perry 2000), the most commonly used are those proposed by Yin (1994). Therefore, the judging criteria chosen for this article is based on Yin. Table 4 provides a summary of the criteria based on Yin (1994).

Construct validity

In simple terms, construct validity is to establish correct operational measures for the concepts being studied. (Perry 2001). Construct validity is 'the ability of a measurement instrument to measure a construct or concept' (Aaker and Day, 1980) The heart of case research involves construct validity because researchers are always trying to establish agreement or disagreement about what a construct means. There are three tactics that can be used to increase construct validity (Table 4 row 1).

Perry (2001) suggests the first, exploratory stage of case research is being flexible from interview to interview, allowing refined understanding of a construct to occur. Second, use of prior theory before and during the convergent interviews, that is, checking and cross-checking ideas with previous researchers in the literature and triangulating the findings as much as possible.

The construct validity of this research is based on the flexibility of introducing appropriate cases during the interview, to allow the participant to introduce his/her own case scenarios.

Multiple sources of evidence were obtained through a literature review, case research review protocols, and documents collected from the participants during the interviews.

The triangulation process based on Patton (1990 as cited in Perry 2001, p.319) can be considered:

Table 4. Case study tactics for four design tests

Tests	Case Study Tactics	Phase of research in which tactics occur
1. Construct Validity	-use multiple sources of evidence	Data collection
	-establish chain of evidence -have key informants review draft case study report	Data collection Composition
2. Internal validity	-do pattern-matching	Data analysis
	-do explanation-building	Data analysis
	-do time-series analysis	Data analysis
3. External validity	-use replication logic in multiple case studies	Research design
4. Reliability	-use case study protocol	Data collection
	-develop case study database	Data collection

Source: Yin 1994, p.33

1. Several sources, for example, interviews with different actors in a case;
2. Several types of sources, for example, an interview and observations about a case;
3. Several analysts, for example, having colleagues re-code transcripts of interview; and
4. Several perspectives, for example, qualitative and quantitative methods.

A chain of evidence is established for this research as it is included either in the main text or as an appendix to the report. Further, research protocol such as the research interview guide has been discussed with key personnel and through pilot research to clarify its ambiguities in order to increase the construct validity of the research.

External validity/transferability

External validity is concerned with the generalisability of research findings beyond the scope of the cases, to the population. (Perry 2001, p.319; Lincoln and Guba, 1985).

Care is taken to select the appropriate cases, as well as the participants, to ensure the external validity in theory building and analytical generalisation are achieved. In analytical generalisation, the researcher is striving to generalise a particular set of results to some broader theory (Yin 1994, p.36). 'For case research must be primarily theory-building, rather than the testing of the applicability of a theory to a population. (Perry 2001, p.320)

Internal validity

Internal validity is a concern only for causal (explanatory) case studies, in which an experiment is required to

establish a direct cause link between x and y. (Yin 1994; Perry 2001) This is not appropriate for exploratory studies as these studies are not concerned with making causal statements. Therefore, with qualitative research, internal validity is not of a major concern. However, it is still necessary to eliminate or minimise contradiction and ambiguity.

Internal validity is achieved through prior theory, proper probing during the interview, and good in-depth listening skills. (Perry 2001) Internal validity is enhanced during the data analysis stage to establish linkages between data collected in the form of inferences, explanations and meanings, to ensure that conclusions drawn have been systematically explored. (Yin, 1994). Further, internal validity for this research is achieved through within-case analysis, in order to build explanation. (Yin 1994; Miles and Huberman, 1994)

Reliability/dependability

Reliability refers to how consistently a technique measures concepts so that other researchers will get the same results when the process is replicated. (Perry 2001; Yin 1994) Therefore, it is necessary to develop case study protocol in the research design stage and use this protocol to collect data and develop a case database during the data collection stage. The database provides a copy of all-important documents and evidences used - for example, protocol, consent form and interview transcripts. In short, all procedures must be documented so that others can replicate. (Yin 1994)

In order to improve the reliability of this research, it may be possible to engage someone to assist in conducting interviews, plus the cross-checking of all findings during the data analysis stage. These steps can help in minimise

interviewer bias.

Prior theory

'Although case research can have elements of theory building and theory testing, there is controversy about how much theory-building or *induction* compared to theory-testing or *deduction* should occur in the research' (Perry 2001, p.307). Eisenhardt (1998) argues that case research should consist of pure induction (theory-building) and therefore no theory should be established prior and to allow theory to be generated during the field research. Yin (1993) however, is close to the theory-testing, confirming/disconfirming-deduction.

For 'pure induction without prior theory might prevent the researcher from benefiting from existing theory, just as pure deduction might prevent the development of new and useful theory' (Perry 2001, p.309). The following sections examine the different views and explain why this research takes the balanced view.

Induction (theory-building) view

Some researchers (Eisenhardt 1989; Dyer and Wilkins, 1991) believe that case research should consist of pure induction, which is theory-building. Dyer and Wilkins (1991) focus on the deep structure of rich descriptions of the context within which social events occur. They downplay deductions such as investigation of particular constructs and cross-case analysis. They argue that case studies should be mere stories and not have any theorising associated with them.

Eisenhardt (1989, p.532 as cited in Carson et al, 2001, p.98) describes a process that has inductive features such as 'flexible and opportunistic data collection methods' that allow additions to questions in an interview protocol during the series interviews. She further argues that the initial research problem 'may shift during the research' as data is gathered, and 'research is begun as close as possible to the inductive ideal of no theory under consideration and no hypothesis to test. That is the literature is enfolded around the data after it has been collected literature is used as little as possible prior to data collection.'

The disadvantage of using one inductive stage is that it may run the risk of drifting away and may even 'rediscover' existing theory and thus not contributing to the research. Also, because of this unstructured approach, the cases are difficult to compare with hence making data analysis difficult.

Deduction (theory-testing/confirming or disconfirming) view

Yin (1993) however argues that case research should be well structured with the view of testing, confirming/

disconfirming of prior theory. That is, a very tight structure should be developed prior to commencing the interview. This can be achieved by 'the posing of clear [and precise] questions...[and] the use of theory and reviews of previous research to develop hypotheses and rival hypotheses; the collection of empirical data [is] to test these hypotheses and rival hypotheses.' (cited in Carson et al, 2000, p.98) Yin argues against changes of direction once the interview has commenced and for a standard, consistent interviewer's guide used for all interviews (Yin 1994). Further, Miles and Huberman (1994, p.17 cited in Carson et al, 2000, p.98) have emphasised the importance of 'prestructured research' for new qualitative researchers working in areas where some understanding has already been achieved. As well, Jensen and Jankowski (1991, p.68) warn that 'researchers who set out to practise the precepts of grounded theory frequently went aground in uncharted analytical terrain.'

Combing induction and deduction in this research

Carson et al (2000) and Perry (2001) propose a blending of these two approaches. As previously discussed, pure induction without prior theory might prevent the researcher from benefiting from existing theory, whilst pure deduction might prevent the development of new and useful theory. Therefore, this research adopts a combination of these two approaches.

Carson et al (2000), suggest that this blending approach can be achieved in three ways. Firstly, an early stage of convergent interviews with practitioners is incorporated into the research design while the prior theory from the literature is being reviewed. (Nair and Riege 1995, cited in Carson et al 2001, p.100).

Secondly, pilot studies should be conducted to fine-tune the interview protocol, before the major data collection stage. These pilot studies are not a pre-test or 'full dress rehearsal'; they are an integral part of the whole protocol writing process (Yin 1994, p.74).

Research design for case selection

This section examines the type of case designs available for case selection. It also explains the conditions which the researcher believes are most suitable for this choice.

Types of case studies

Yin (1994) suggests that there are four types of case research designs. These are summarised in Table 5

Holistic or embedded as unit of analysis?

According to Yin (1994) Type 1 involves a single case

Table 5. Types of case research design

	Single-case designs (1)	Multiple-case designs (2)
Holistic (single unit of analysis) (1)	Type 1	Type 3
Embedded (multiple units of analysis) (2)	Type 2	Type 4

Source: Yin (1994, p.39)

design with a holistic or single unit of analysis (column 1, row 1). Type 2 is a single case design with embedded or multiple units of analysis (column 1, row 2). Type 3 involves multiple case design with a single unit of analysis (column 2 row 1) and type 4 multiple case designs with multiple unit of analysis (column 2, row 2).

A case is considered to be holistic if it contains only one unit of analysis, or embedded if it contains multiple units of analysis (Perry 1998; Yin 1994). If the research is about what a person can do, then the unit of analysis is an individual. Sometimes researchers use small cases that are a part of a big case that is the unit of analysis for a study. These parts of sub-cases are called embedded cases because they are embedded in the bigger unit of analysis (Carson et al., 2001).

Further, if the research is abstract, as it seeks to utilise convergent interviews from the participants to build a theory, then "A holistic design is used when the research requires information at a broad or 'abstract' level or when logical sub -units are not identifiable" (Yin 1994, p.42).

Single or multiple case studies?

There are no precise guides to the number of cases to be selected. Lincoln and Guba (1985,) suggest sampling of cases until saturation is reached. Patton (1990) claims there are no rules for sample sizes for qualitative research. Eisenhardt (1989) recommends that cases should be added as the interviews unfold, until theoretical saturation is reached.

Yin (1994) suggest that one case is acceptable if it meets at least one of the following three criteria (as cited in Carson et al, 2001, p.103):

1. the case is a *critical* one for confirming, challenging or extending a theory because it is the only one that meets all the conditions of the theory;
2. the case is rare or *extreme* and finding other cases is so unlikely that research about the situation could never be done if the single case was not investigated;
3. the case provides *unusual access for academic research*, and unless the case is investigated, an opportunity to examine a significant social science problem may be lost.

Selection of the cases

There are two types of logic underlying the selection of

cases: *sampling logic* and *replication logic*. Sampling logic is commonly used in surveys, which is used to assume a 'represent' a large pool of respondents. Replication logic according to Yin (1994, p.45) is 'analogous to that used in multiple experiments...same results are predicted.' In other words, selection of the cases should be relevant and purposive to the situation rather than sampling representative logic. Indeed, 'random selection of cases is neither necessary, nor even preferable' (Eisenhardt, 1989, p.537).

Also, replication is carried out in multiple case research to achieve literal or theoretical replication.

Number of cases and interviews

Number of cases

Selection of the optimal number of cases for this research is a critical decision (Eisenhardt, 1989; Yin 1994). Eisenhardt's view (1989, p.545) is that 'While there is no ideal number of cases, a number between four and ten cases often works well. With fewer than four cases, it is often difficult to generate theory with much complexity, and its empirical grounding is likely to be unconvincing.' Hedges (1985, cited in Carson et al 2001, p.104) suggests an upper limit of twelve because of the high costs involved in qualitative interviews and the quantity of qualitative data which can be effectively assimilated. In this research fourteen cases were used.

Number of interviews

In addition to determining how many cases, in turn the number of interviews needs to be determined. Once again there is no rule to dictate how many interviews should be conducted. Carson et al. (2001) suggest that thirty or so interviews are required to provide a creditable picture in a reasonably sized research project.

However, 'The validity, meaningfulness and insights generated from qualitative inquiry have more to do with the information-richness of the case selected and the observational/analytical capabilities of the researcher than with sample size' Patton (1990, p.185 cited in Carson et al. 2001, p.105).

Data collection procedures

This section outlines the procedures used to collect data:

the researcher's actions during the case interviews; the case research protocol used for the interviews; and the source of data collected to supplement the interviews. (Yin, 1994).

Participant's actions during the interview

Indeed, as suggested by Eisenhardt (1989), all of the interviews undertaken in this research adapted the approach of being 'flexible and opportunistic data collection methods' that allow additions to questions in an interview protocol during the series interviews'.

A standard, consistent interviewer's guide should be developed and should be used for all interviews. This guide was provided to the participants and briefly discussed prior to commencing the interviews. Any questions concerning the research could be raised at this point and would be fully answered prior to commencement. This approach conforms to Yin's (1994) suggestion that all interviews be standardised and that there be no change of direction (with the exception of introducing cases as the interview progressed) once the interview has commenced. It should be noted here that in order to add reliability of the research or manuscripts, it is suggested researchers should include a sample of the consent form as appendix.

Case study protocol

The case study protocol is the most important tactic in achieving reliability. This protocol should provide guidance for another researcher who might attempt to repeat the case study. (Yin, 1994, p.63). The protocol contains the instrument but also contains the procedures, instruments and general rules that should be followed.

This following outlines the contents of the protocol.

Content of the protocol

The case study protocol requires an overview, field procedure, guide and case study questions to be specified (Yin 1994). An overview of the research should be provided to the participants at the first contact stage. If the approach is based on non-directive, open-ended questioning, the format of the interview is unstructured to enable participants to freely express their views. All the questions raised at the interview were raised with "why," "how" and "what" so that real, rich and deep data could be gathered.

The interview protocol provided an overview and background of the project as well as the interview procedures. The participants' details, such as names, job titles and organisations were documented and included in the interview transcripts. Finally, it outlined the ethical

procedures followed by the researcher - that is, that the participant had the right to confidentiality and to terminate the interview at any time if he/she decided not to proceed. The procedure also explained to the participant that the interview would be taped for analysis purposes. These details should be communicated to all participants prior to the interview (ie via email) and should be explained again to the participant prior to the commencement of the interview. A consent form confirming the above was signed by each of the participants prior to the commencement of the interview.

Analysing the data

The analysis of the data collected forms the basis of theory building. It also aims at confirming/disconfirming prior theory. Unlike quantitative research analysis, there are no guidelines established for analysing qualitative data. However, Patton (1990) and Yin (1994) provide some guidance in this respect.

The aim of this section is to examine these guidelines and procedural suggestions and how they affected the data analysis.

Cross-case analysis

Patton (1990), Miles and Huberman (1994 cited in Perry 2001, p.316), suggest that once the data is gathered, it is customary for case analysis to always precede cross-case analysis, because it provides the data for the cross-case analysis.

Perry (2001, p.316) suggests that the description of each case near the beginning of the data analysis part of the report is restricted to less than half a page per case, with other descriptive material relegated to appendixes or the database.

In the cross-case analysis, the report emphasises reasons why differences occur, with an explanation of why a difference was found, frequently using quotations obtained from the interviews to justify conclusions about differences between cases in the cross-case analysis.

Data analysis for this type of research is based on coding the data and by clustering the data so that a theme or hypothesis can be identified. 'For cross-case analysis, most qualitative researchers use some form of content analysis initially to analyse their data, that is, they code groups of words in their transcripts into categories. These categories usually determined by the research issues that were the starting point for the research. "These codes are retrieval and organising devices that allow the analyst to spot quickly, pull out, then cluster all the segments relating to a particular question, hypothesis, concept, or theme' (Miles and Huberman 1984, p.56, Carson et al, 2001, pp. 106-107).

In summary, prior theory from the literature review, pilot

cases and convergent interviews are linked to the cases through practices of data collection and analysis that include:

1. the open research issues at the end of the literature review
2. the relatively more specific interview probe questions used to “flush out” quotations and ideas about aspects of those research issues, after more open questions have been posed
3. appropriately selected cases. (Perry 2001, pp.317-318)

Limitations of case study methodology

Although case research is considered a distinctive form of empirical inquiry which is rigorous, coherent, and based on a justifiable philosophical position (Perry 1998a), the unique characteristics of case study research that produce these strengths may also produce weaknesses (Eisenhardt, 1989; Easterby-Smith et al., 1991).

Firstly, there is an argument on case research that there is a lack of rigour and bias (Easterby-Smith et al., 1991, Yin 1994). This can be overcome by using the techniques suggested above to minimise the lack of rigour and bias.

Secondly, it is argued that case study is not easily open to generalisation (Easterby-Smith et al., 1991, Yin 1994). As discussed previously, the case study research within the realism paradigm aims to generate theories (analytic generalisation) and not to enumerate frequencies (statistical generalisation). That is, this type of research does not use “sampling units” as measurement; rather it is selected as a laboratory investigator selects the topic of a new experiment (Yin, 1994, p.31).

Thirdly, case studies are difficult to conduct because of potential logistical and operational problem (Easterby-Smith et al., 1991, Yin 1994). This can be overcome through detailed planning of the investigation, design of a research protocol, preparation of an interview guide and systematic collection of data during the interviews.

Ethical considerations

As Zikmund (2000, p.71) suggests, ‘There is no general agreement among philosophers about the answers to such a question [ethical question].’ And “Of course, the answer to the question ‘What is ethical?’ is not easy - only one’s conscience operates to inhibit any questionable practice’ (p.83). Nevertheless, when dealing with research ethics it is necessary to keep in mind that ‘The principles of ethical propriety at the base of most of these guidelines resolve into simple considerations of fairness, honesty, openness of intent, disclosure of methods, the ends of the researcher to guarantee unequivocally individual privacy, and an informed willingness on the part of the subject to participate voluntarily in the research

activity’ (Leedy, 1997, p.116).

Researchers are reminded that research is conducted purely for research purposes. It is not intended to use the data collected for any other purpose. Confidentiality and anonymity are paramount to the researcher and the participants. Although Zikmund (2000, p.72) suggests that there are three parties to the research, it is probably the best if one can only involve two parties - the researcher and the respondent.

In addition, it is imperative to note that when interview is conducted with mirror, the research protocol including consent must be obtained by the parent/guardian. This is extremely important in order to protect the children as well as the researcher. This action also enforces the validity of the research.

Conclusion

As presented above, this paper is intended to provide a guide to assist those who wish to embark on qualitative research. The study of contemporary problems as well as human behaviour could yield better results by using qualitative research.

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Full Length Research Paper

The Inadequacy of academic environment contributes to inadequate teaching and learning phenomena

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This study aims at the inadequacy of academic environment as an indicator contributing to the inadequate teaching and learning situation in Pakistan. The main focus is to look into the low proficiency of students in the subject of English at secondary school level. A comprehensive questionnaire was designed from the literature concerned and The National Education Policy of Pakistan 1998 data were collected from the sample population of one hundred students and forty teachers, selected randomly from twenty eight public and private secondary schools of Punjab, Pakistan. The data were analyzed statistically by using SPSS 13.0. The results showed a considerable deficiency of academic environment such as overcrowded classrooms, minimum use of English and absence of feedback mechanism. The provision of library facility and audio-visual aids remained the lowest. The overall situation of academic environment was found unsatisfactory in the secondary schools of public and private sectors. The study will provide a guideline to English teachers, policy makers, educationists and students.

Key words: Teaching- learning, academic environment, overcrowded classrooms, library facility, feedback.

INTRODUCTION

An attempt was made in this study to find out the provision of academic facilities such as the less crowded classrooms, the provision of library facilities, availability of audio visual aids, existence of a sound feedback mechanism, along with the use of English as a language of communication and the allocation of projects and assignments to the students. It was hypothesized that inadequate academic facilities adversely affect the teaching and learning phenomena in public and secondary schools of Pakistan.

OBJECTIVES OF THE STUDY

The study will identify the issues regarding inadequate

academic facilities provided to students and teachers at secondary level in private and public schools, ways to improve the existing academic environment to facilitate the teaching and learning of English Language in Pakistan.

BACKGROUND OF THE STUDY

The Declining standard of teaching and learning situation of English Language has always been a challenging issue in Pakistani education. Substantial body of research studies have been carried out by different scholars to identify the causes of the low standard of

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teaching and learning situation of English Language in Pakistan. Warsi (2004) underscored multiple threatening concerns at institutional and administrative level and stated that the problematic issues such as inadequacy of pedagogic techniques, inappropriate text books, a wide disparity between the curriculum and needs of the learners and lack of a potentially strong monitoring mechanism to check the efficacy of teaching methods pose significant hurdles in attaining the targeted goals. Teenvo (2011) identified the challenges faced by teachers and students in teaching and learning of English Language at district Naushahro Feroze Sindh, Pakistan and remarked that the main causes of the low performance of students might be attributed to the untrained teachers, lack of proper physical facilities, the absence of coordination between curriculum and requirements of learners, insufficient time allocation and improper inspection system. His findings strongly reinforced the idea that poor academic environment hinders the process of academic achievement. Shahzada et al., (2012) enumerated the problematic issues confronted by the students at secondary school level of Bannu district and stated the hitches such as inexperienced and untrained English teachers, incompatibility of English language courses with the needs of present time, absence of teachers of linguistics and use of traditional outdated methods.

The present study is led by the assumption that favorable academic environment can play a decisive role in the development of teaching and learning situation of English Language at secondary level in Pakistani educational institutions. The area of academic environment is a highly established and researched area which holds more than one implication. The aspects explored in this study are related specifically with the academic facilities provided at the level of classroom to assist the process of teaching and learning of English. Appropriate number of students in the class makes it possible for teacher to pay individual attention to each student and to get them engaged in educative activities. This issue is further reinforced by Khan (2011) and Asikhia (2010) that overcrowded classes create a number of problems regarding maintenance of discipline and classroom management.

Most of the Pakistani schools do not envisage the great significance of well-equipped libraries to broaden the vision and understanding of the students. Inaccessibility of library facilities hampers the process of learning and leaves no possibility for students to enrich their knowledge by keeping themselves abreast with the changing environment. This regrettable negligence on the part of administrative body should be realized seriously. The related studies conducted by Teenvo (2011) and Amuseghan (2007) stated that the low proficiency of student may be attributed to the lack of accessory enrichment reading material in school which results in restraining their power of critical thinking and draining their level of motivation. Accessibility to knowledge and progress is conditioned on the use of English language

because career possibilities and employment opportunities are readily available to the individual having good spoken power of English. This fact is not realized by most of the secondary schools in Pakistan. English is not used as a language of communication. So the deficient communicative skill of the students becomes a big hurdle in the pursuance of high education and career opportunities. An effective and constructive feedback system has paramount importance to measure the efficacy of teaching methodologies and to develop the professional competencies of teachers. Educational institutions in Pakistan are lacking in administering a sound and discreet feedback mechanism to supervise and assist the English teachers so that the desired goals may be accomplished. Warsi (2004) and Faizi (2010) attributed the inadequacy of teaching and learning of English Language in Pakistan to the absence of feedback structures.

The use of audio-visual aids is pertinent to the concept formation and skill enhancement of the learners. Mukalel (1998), Brinton (2001) and Sokolik (2001) strongly advocated 'the use of audio-visual aids like charts, posters, pictures, models, computers, overhead projectors and multimedia in the English language classroom'. In most of the Pakistani secondary schools, the current practices are entirely reverse to the findings of the research studies. Teachers have no approach to the advanced material facilities, even the cheaper aids such as charts, pictures and models are not customary to be used in the classroom. More attention is paid to the timely completion of the course books, overlooking the significance of the use of the accessory material.

The present study is designed to investigate the inadequacy of academic environment which is attributable to the low proficiency of students in English Language at secondary level with an intention to improve the existing deficiencies at public and private institutions of Pakistan.

METHODOLOGY

This study investigated the inadequacy of academic environment leading to low proficiency of students in the subject of English Language at secondary level. Various factors such as overcrowded classrooms, having unfavorable atmosphere, non-availability of library facilities, absence of audio visual aids, non-application of English as language of interaction leads to the low proficiency of students in the subject of English.

Population

Data were collected from the students and the teachers of the secondary schools of Punjab, Pakistan. Detail of sample population is given below.

- i) 50 male and female students were randomly selected from 10 public secondary schools.
- ii) 50 male and female students were randomly selected from 10 private secondary schools.
- iii) 20 English teachers were randomly selected from 4 public secondary schools.
- iv) 20 English teachers were randomly selected from 4 private secondary schools.

Table 1. The views of public secondary school male and female students about existing academic facilities at secondary level in Rawalpindi division.

Description	Male students		Female students	
	Yes (%)	No (%)	Yes (%)	No (%)
Overcrowd class affects output	85	15	75	25
Use of English for communication	35	65	30	70
Provision of library facility	25	75	10	90
Provision of feedback mechanism	40	60	30	70
Availability of A.V. aids	5	95	5	95
Allocation of projects	30	70	40	60
Satisfaction with academic and work environment.	45	55	50	50

Table 2. The views of private secondary school male and female students about existing academic facilities at secondary level in Rawalpindi division.

Description	Male students		Female students	
	Yes (%)	No (%)	Yes (%)	No (%)
Overcrowd class affects output	90	10	60	40
Use of English for communication	35	65	50	50
Provision of library facility	35	65	15	85
Provision of feedback mechanism	80	20	50	50
Availability of A.V. aids	5	95	10	90
Allocation of projects	50	50	70	30
Satisfaction with academic and work environment	60	40	75	25

The overall population consisted of 100 students from 20 public and private secondary school and 40 teachers from 8 public and private secondary schools.

QUESTIONNAIRE

The instrument used to achieve the target was the development of a questionnaire filled by the sample population. The criteria for a comprehensive questionnaire were determined after consulting the literature and National Curriculum for English Language 2006. Research questions addressed the problems of overcrowded classrooms, lack of library facility, absence of audio-visual aids and minimum exposure to English language. The questionnaires were personally distributed among the sample population.

Treatment of data

Results were analyzed using SPSS 13.0. Frequency with percentage was calculated. Chi-square test was applied to examine the significant relationship between dependent variables (academic facilities) and independent variables (students and teachers) at 0.05% level of significance.

RESULTS

The collected data were tabulated in percentage and frequency for analysis as given in Table 1, 2, 3 and

4. Data collected in table 1 show that 85% male and 75% female students of public secondary school verified the statement that overcrowded classes hindered the process of teaching and learning which results to low proficiency of students. About 90% male and 60 % female students of private schools showed affirmative response as indicated in Table 2. Up to 95 % and 85% teachers of public and private schools respectively verified the statement (Table 3). The different opinion about the adverse impact of heavy strength on teaching learning activity was non- significant, indicated in table 4.

Table 1 presents that only 35% male and 30% female secondary school students of public sector showed positive response about the use of English as language of communication between teacher and students. The affirmative response of private school male and female students remained 35% and 50% respectively. The percentage of negative response holders was far greater as shown in Table 2. Secondary school teachers of public and private sector also indicated the minimum exposure to English language, recorded in Table 3. Table 4 shows the different response of the whole population about the non- application of English as a language of interaction was non-significant. Results exhibited in tables 1 show that only 25% male and 10% female secondary school students of public sector vindicated the availability of

Table 3. The views of public and private secondary school teachers about existing academic facilities at secondary level in Rawalpindi division.

Description	Public teachers		Private teachers	
	Yes (%)	No (%)	Yes (%)	No (%)
Overcrowd class affects output	95	5	85	15
Use of English for communication	30	70	45	55
Provision of library facility	15	85	20	80
Provision of feedback mechanism	50	50	50	50
Availability of A.V. aids	5	95	5	95
Allocation of projects	45	55	50	50
Satisfaction with academic and work environment	65	35	65	35

Table 4. Chi-square test indicating the level of significance.

Description	Students' Response (Agreed %)					Teachers' Response (Agreed%)				
	Public		Private		Total	Public		Private		Total
	Chi-square	df	Chi-square	df	df	Chi-square	df	Chi-square	df	df
Overcrowd class affects output	40	37.5	77.5	1	287 ^{NS}	47.5	42.5	90	1	1.111 ^{NS}
Use of English for communication	16.3	21.3	37.5	1	.853 ^{NS}	15	25.5	37.5	1	.960 ^{NS}
Provision of library facility	8.8	12.5	21.3	1	.672 ^{NS}	7.5	10	17.5	1	.173 ^{NS}
Provision of feedback mechanism	17.5	32.5	50	1	7.200 ^{NS}	25	25	50	1	.000 ^{***}
Availability of A.V. aids	2.5	3.8	6.3	1	.213 ^{NS}	2.5	2.5	5	1	.000 ^{***}
Allocation of projects	17.5	30	47.5	1	5.013 ^{NS}	27.5	25	52.5	1	.100 ^{NS}
Satisfaction with academic and work environment	23.8	33.8	57.5	1	3.274 ^{NS}	32.5	32.5	65	1	.00 ^{**}

library facility. In private secondary schools 35% male and 15% female students indicated positive response as shown in Table 3. The teachers of both public and private secondary schools showed complete dis-satisfaction with the existing insufficient library facilities. Table 4 reveals that the opinion difference between teacher and student about provision of library facility was non-significant at 0.05p.

Table 2 presents that up to 40% male and 30% female students of public secondary schools responded affirmatively about the provision of feedback system. Table 2 reveals that the positive response of male and female students of private schools remained 80% and 50% respectively in this regard. According to Table 3, up to 50% secondary school teachers of public and private sector claimed the provision of feedback mechanism. Table 4 shows that the difference of opinion among all the sample population was non-significant. Tables 1 and Table 2 exhibit that all male and female students of public and private secondary schools indicated an exceedingly hopeless situation about the facilities of audio- visual aids. Likewise, Table 3 indicates that 95% of the teaching community from public and private sector denied the use of audio visual aids during teaching practices. Table 4 shows that the teachers' response was significantly similar, however the minor difference of students' opinion was non-significant. About allocation of projects, Table 1 reveals that only 30% male and 40% female students of

public school showed positive response. Table 2 and Table 3 indicate that the students and teachers of private school specified a slightly increased level of the insertion of projects implying the novelty of teaching method employed in secondary schools of private sector. Table 4 exhibits that the whole sample population differs non-significantly at 0.05p about the allocation of projects and assignment in the existing teaching practices.

Table 1 shows the satisfaction level of male and female students of public school regarding their academic environment. About 45% male and 50% female responded in the favor of their existing academic environment. Up to 60% male and 75% female students of private school expressed satisfaction to their educational atmosphere as shown in Table 2. Only 60% teachers of both public and private school favored the statement (Table 3). Accumulatively 40% of the whole sample population expressed its discontentment and demanded immediate remedy to improve the academic and work conditions. Table 4 shows the minor difference in the opinion of students which was non-significant.

CONCLUSION

This study revealed that in most of the public and private secondary schools of Pakistan, students are deprived of the facilities of reading magazines and newspapers in school libraries. They are not given access to multiple

sources of knowledge and it becomes a reason of their low motivation level and disinterestedness in studies which finally results in low proficiency. The results coincide with the findings of the studies conducted by Teenvo (2011), Amuseghan (2007), and Memon (2007).

Results further verified that students are not provided with any facility of utilizing audiovisual aids for their conceptual development at both public and private sector secondary schools. The results correspond to the findings of Agam and Uplane (2013) and Shazada et al., (2011) who concluded that the non-availability of audio visual aids hampers the process of learners' acquisition of linguistic skill which consequently affects the overall output of students at secondary level.

Another important inadequacy of academic environment observed was over crowdedness of classrooms which exercised an adverse impact on the overall performance of the students. Similar findings were also reported by Khan (2011) and Asikhia (2010).

This study also investigated that the use of motivational strategies such as allocation of projects and assignments to the students was not satisfactory especially in the public schools. Feedback structure was also found ineffective. Results coincide with the findings reported by Warsi (2004) that the absence of feedback structures leads to the inadequacy of teaching and learning of English in Pakistan. However a comparatively better situation is found at secondary schools of private sector in this regard. The study also identified lesser use of English language as medium of communication between students and teachers. Consequently the students can never shed off their shyness in attaining oral proficiency. The results are supported by Shamim (2011) and Finocchiaro (1982) who suggested that the limited exposure to English language poses a big hindrance in attaining good results.

A high level of dissatisfaction with the existing academic environment is recorded among the students and teachers of public and private secondary schools. The overall situation of academic environment is neither satisfactory at private secondary schools nor at public secondary schools. The results clearly accepted the hypothesis that the inadequacy of academic environment contributes to inadequate teaching and learning condition in Pakistan.

DISCUSSION

Accessibility to library facilities and audio- visual aids along with the appropriate strength of class can exert significant positive impact on the quality of teaching and learning English Language. Unfortunately, as revealed in this study, the administrative bodies of public and private secondary schools in Pakistan pay scant attention to these significant issues. This regrettable negligence results in dissatisfactory performance of students in secondary school examination. Teachers may take

initiative in this regard. They should strive to update their teaching pedagogies by employing audiovisual aids and by allocating assignments and projects to the students. Audiovisual aids lend diversity and novelty to the teaching material and raise the level of students' motivation and interest. English teachers may create an environment in their classes where English is used as a language of interaction between students and teachers. In this way the students could avail a native like situation through plentiful exposure to language in use resulting in the development of their oral proficiency and securing a bright career.

It is recommended that proper arrangements should be made to address the problematic issues confronted by teachers and students in both public and private sector so that the proficiency level of the students in the subject of English Language could be raised. Systematized and well planned efforts to improve the academic environment will definitely raise the level of satisfaction among the students and teachers and also help in attaining determined goals.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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Full Length Research Paper

Analysis of academic self-efficacy, self-esteem and coping with stress skills predictive power on academic procrastination

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The goal of this research is to analyze the predictive power level of academic self-efficacy, self-esteem and coping with stress on academic procrastination behavior. Relational screening model is used in the research whose research group is made of 374 students in Kırıkkale University, Education Faculty in Turkey. Students in the research group are from different grades and demographic features. "Aitken Academic Procrastination Scale", "Academic Self-Efficacy Scale", "Rosenberg Self-Esteem Scale" and "Coping with Stress Scale" are used in the research. Path analysis modeling is used in the research in order to test the hypothesis models. Results indicate that, it is determined that the academic procrastination behavior of students is explained by academic self-efficacy, self-esteem and coping with stress strategies in scope of a model. It is seen that active planning, one of the coping with stress strategies explains academic procrastination on a negative and meaningful level; biochemical avoidance strategies explain on a positive and meaningful level. Research results are discussed in the light of related literature.

Key Words: Academic procrastination, academic self-efficacy, self-esteem, coping with.

INTRODUCTION

Students face with various problems in education/ academic field, just like the problems in personal-social field during education life. One of the most common problems in this scope is academic procrastination behavior. Rothblum et al. (1986), this behavior is defined as procrastination of academic duties such as preparing for exams or doing homework constantly or sometimes. This definition is one of the first definitions about academic

procrastination. It is seen that definitions about academic procrastination are related to students' intrinsic or extrinsic behaviors and results of them. Senécal et al. (1995) define academic procrastination as; staying out of academic duties until stress level increases to high level as these duties aren't completed in time. According to Ferrari et al. (1995), academic procrastination behavior is the behavior of avoiding academic duties which result to

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student academic failure. It is seen that all of the definitions about academic procrastination emphasize delaying academic duties and related negative results. On the other hand, students can have some short-term advantages by academic procrastination (Tice and Baumeister, 1997). In other words, they avoid academic concerns such as studying and preparing for exams for a short time. In a research by Kandemir (2012), it was found that there is a positive relation between students' fear of failure, exam anxiety and academic procrastination. In this context, it can be said that, students make academic procrastination a method of avoiding anxiety they relax for a short time.

It is known that academic procrastination behavior is the most common type of procrastination (Balkis, 2006; Clark and Hill, 1994). According to Hill et al. (1978), approximately 50% of university students; according to Solomon and Rothblum (1984), approximately 46%, according to Balkis and Duru (2009) approximately 23 % students make academic procrastination. Literature shows that this behavior is common. There are significant studies which indicate that students that make academic procrastination have negative results of this behavior (Burka and Yuen, 1983; Kandemir, 2010). Academic procrastination behavior has negative results such as having academic failure (Burka and Yuen, 1983; Ferrari et al. 1995; Knaus, 1998), falling behind in the class (Rothblum et al., 1986), not attending the school and dropping out (Knaus, 1998). When all of the results are taken into consideration, it is possible to say that academic procrastination is common in university life and cause some negative results. Other studies, have determined that academic procrastination is related to academic self-efficacy (Eerde, 2003; Farran, 2004; Kandemir, 2010; Klassen et al., 2007). Academic self-efficacy is defined as the belief of students that they can be successful in academic duties (Bandura, 1997). According to Sirois (2004), academic self-efficacy is the perception of a student about his/her abilities and aspects that direct him/her to the way of success. Farran (2004) says that students' belief in their abilities and talents will contribute to prevent academic procrastination behavior.

On the other hand, researches also show that academic procrastination is related to individuality (Eerde, 2003; Ferrari and Patel, 2004; Kandemir, 2012; Valkyrie, 2006). Self-esteem, which is defined as perceiving oneself as talented, important, successful and valuable, is a variable that has a negative relation to academic procrastination behavior. In a meta-analysis study by Eerde (2003), it was found that when students give more importance to themselves, academic procrastination behavior decreases. In a study by Uzun-Özer (2010) it was determined that there was a negative relation between self-worth and academic procrastination. It is emphasized in the literature that the abilities of coping with stress and discordant/avoidant coping with skills (Essau et al., 2008; Solomon and Rothblum, 1984). According to Lazarus and

Folkman (1984), coping with skills is a person's ever-changing cognitive and behavioral attempts to overcome specific intrinsic and extrinsic demands that are too much for him/ her. According to Tice and Baumeister (1997) making procrastination is escaping from a stress resource for a specific time period. Burns, Dittmann, Nguyen and Mitchelson (2000) state that students who want to cope with academic duties that include stress factor make procrastination by using avoidant coping strategy. In a research by Cao (2012), it was found to be a positive relation between avoiding studying behavior and academic procrastination at .52 level. Accordingly, co-existing with the increase of avoidance behavior is also increasing procrastination. In the same research, it was found that avoidant behavior predicts 16% of academic procrastination behavior. When the above mentioned explanation is taken into consideration, we see two basic problems. The first of these is that academic procrastination is a common problem among university students and the second is that academic procrastination behaviors result to some negative result such as failure, anxiety, failing the course, not going to school. In order to help cope with these problems, analyzing predictive level of the abilities of academic self-efficacy, self-esteem and coping with stress on academic procrastination is thought to worth being researched.

METHOD

Research model and research group

Relational screening model is used in this research, in which academic procrastination behavior of students is explained as coping with stress, academic self-efficacy, self-esteem abilities. According to Karasar (2005), relational screening model is a research model which attempts to determine the existence and level of change in and between two or more variables. The research group is made up of students studying at Kırıkkale University, education faculty. A total of 374 students participated in the research, sampling method is used in order to reach these students. In addition, 99 male, 265 female students participated in the process. 124 of participants (33.2%) was in the 1st grade, 56 (15%) in the 2nd grade, 96 (25.7%) in the 3rd grade and 98 (26.2%) in the 4th grade.

Data collection tools

Aitken Academic Procrastination Scale

The scale developed by Aitken (1982) was adapted to Turkish Language by Balkis (2007). The scale has one dimension and consists of a total of 16 items in 5 likert types. 293 students from different departments were assessed on the validity studies of the adaptation of the scale by Balkis (2007). Each item in the scale was examined for its measurement of inclination towards academic procrastination and the item-total correlation was found to range between .33 and .73. The internal consistency coefficient of the scale is Cronbach Alfa (α) = .89. The Pearson correlation coefficient was found to be significant at $r = .87$, $p < .001$ level in the analysis conducted for test-retest reliability. A factor analysis was conducted in order to examine the structural validity of the scale and it was

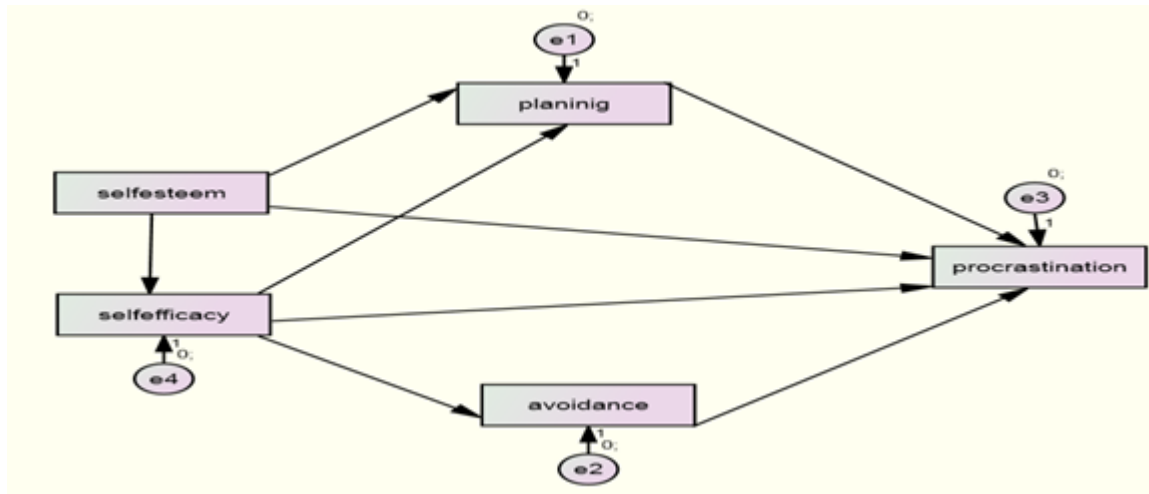


Figure 1. Hypothesis model that will be tested in the model.

revealed that the scale had a one factor structure. The variance explained by the one factor is 38% and the eigenvalue of this factor is 6.14.

Academic Self-Efficacy Scale

This scale, developed by Kandemir and Özbay (2012), aims to determine the academic self-efficacy levels of students. Reliability and validity studies of the scale included 468 students (243 female and 225 male) with different grades and different demographical features. Primarily, factor analysis was applied on data obtained from the research group. Confirmatory Factor Analysis was conducted in order to evaluate the four-factor structure of the Academic Self-Efficacy Scale (ASES), which was formed after Exploratory Factor Analysis (EFA). CFA results evaluated adaptive values of ASES, which were: $X^2 = 513.04$ ($sd=148$, $p<.001$), $(X^2/sd) = 3.47$, $GFI=.90$, $RMSEA=.073$, $RMR=.04$, standardized $RMR=.056$, $CFI=.97$ and $AGFI= .87$. In addition to CFA, Cronbach alpha internal consistency coefficients, calculated based on item analyses, were examined in order to evaluate the reliability of the scores obtained from ASES. The coefficients were found to be .90 for the first factor, .78 for the second factor, .77 for the third factor, .69 for the fourth factor and .91 for total scale. Item-total correlations for both dimensions ranged between .36 and .67

Rosenberg Self-Esteem Scale

The Self-Esteem Scale originally was developed by Rosenberg (1965) for the purpose of measuring global self-esteem. It taps the extent to which a person is generally satisfied with his/her life, considers him/herself worthy, holds a positive attitude toward him/herself, or, alternatively, feels useless, desires more respect. The instrument contains five positively scored and five negatively scored items. Reverse items are 3, 5, 8, 9, 10. For the purpose of this study, the RSES were summed. Rosenberg studied the scale's reliability and validity on two small college samples and had two week test-retest reliability coefficients of $r = .85$ and $.88$. Rosenberg's Self Esteem Scale was adapted to Turkish adolescents by Çuhadaroğlu (1986). Çuhadaroğlu (1986) found that the correlation coefficient between psychiatric interview scores and scores of RSES was .71.

Coping With Stress Scale

The original structure of this scale is the scale of coping with stress, methods developed by Özbay (1993) for foreign students in American universities. The test was adapted to Turkish by Özbay and Şahin (1997). The test was arranged by five likert type grading. Six factors determined with factor analysis were named as active planning, searching for external assistance, seeking refuge in religion, avoidance-abstraction (emotional-operational), avoidance- abstraction (bio-chemical) and acceptance-cognitive restructuring. The Cronbach Alfa internal consistency method was used to determine the reliability of the test. The test's General reliability coefficient was found to be .81.

FINDINGS

In this section, findings about the model test that explains students' academic procrastination behavior are presented. Path analysis is done in the research in order to determine if the model is meaningful in direct and indirect relations. (Figure 1)

For the model to be tested, it is predicted that students' self-esteem directly predicts academic procrastination and indirectly predicts academic procrastination through other variables; academic self-efficacy directly predicts academic procrastination and indirectly predicts academic procrastination through coping skills (planning and avoidance); coping with stress skills (planning and avoidance) directly predict academic procrastination. In this context, before doing the model test, correlation coefficients among variables are analyzed. (Table1)

At the end of correlation analysis, it is seen that there are meaningful relations between academic procrastination and related variables. It is found that academic procrastination is related to self-esteem at $r=-.15$, $p<01$ level, academic self-efficacy $r=-.15$, $p<01$, active planning coping with stress skills $r=-.19$, $p<01$ and bio-chemical avoidant coping with stress at $r=.17$, $p<01$ level. At the

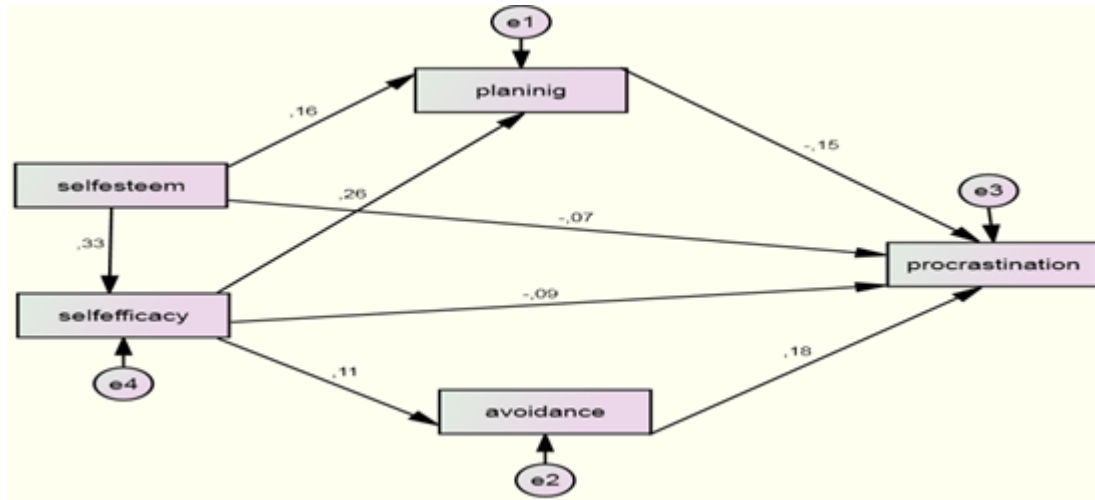


Figure 2. Findings related to Hypothesis Model.

Table 1. Correlation Values among Variables.

Variables	(1)	(2)	(3)	(4)	(5)
Academic Procrastination (1)	1				
Academic Self-Efficacy (2)	-.15**	1			
Self-Esteem (3)	-.15**	.34**	1		
Coping with stress / Active Planning (4)	-.19**	.32**	.25**	1	
Coping with stress / Biochemical Avoidance (5)	.17**	.12*	-.04	.04	1
Total	374	374	374	374	374

* $p < .05$, ** $p < .01$.

end of the research, it is seen that, relation coefficients between self-esteem and biochemical avoidance coping with stress skills and coping with stress skills aren't meaningful. Therefore, correlation sufficiency couldn't be ensured for the model. This is why path relations among these variables in the hypothesis model are removed and model test is applied. Analysis results of model test are given below. (Figure 2)

When the coefficient of concordance of the tested model is analyzed, it is seen that CFI, .97; IFI, .95; NFI, .96; TLI, .96 and RFI, .89. Chi square, 2.01; RMSEA values are .04. It is also determined that adaptive values such as CFI, IFI, NFI, TLI are over .90, Chi square is below 5 and RMSEA value is below .07, all these show that the model is a good one (Şimşek, 2007). This is why, there was no need to analyze improving indexes. The direct effect scores in the model test that explain students' academic procrastination behavior are as such; Self-esteem affects and explains academic procrastination at -.07 level, academic self-efficacy .33, active planning coping with stress skills .16 level; academic self-efficacy affect and predict academic procrastination at -.09 level, active planning and coping with stress

skills at.26 level, biochemical avoidance coping with stress skills at.11 level; active planning affect and explain academic procrastination at -.15 level and biochemical avoidance coping with stress skill affect and explain academic procrastination at .18 level. According to the research results, self-esteem, academic self-efficacy belief and active planning coping with skills are negatively explaining variables for academic procrastination while biochemical coping with skills is a positively explaining variable for academic procrastination.

DISCUSSION

In this research, which explains the academic procrastination behavior of university students, it is seen that self-esteem, academic self-efficacy, active planning and biochemical avoidance coping skills explain academic procrastination together. It is determined that self-esteem predicts academic procrastination negatively and at a meaningful level. It is seen that in the related literature, there are more studies that analyze the relation between self-esteem and academic procrastination (Balkis and

Duru, 2010; Beswick, Rothblum and Mann, 1988; Kandemir, 2012; Lekick, 2006; Solomon and Rothblum, 1984) but there is a limited number of researches in which regression models are used (Kandemir, 2010; Aydođan and Özbay, 2011). It can be said that these researches support the findings of this research. Findings imply that when students' faith in success increases, academic procrastination behavior decreases. In a research by Balkis and Duru (2010) it is found that there is a negative and meaningful relation between self-esteem and academic procrastination. Beheshtifar and Azadi (2013) found that there is a meaningful and negative relation between students' organization based self-esteem and academic procrastination. Ferrari (1991) compared individuals who have strong academic procrastination tendencies with individuals who have weak academic procrastination tendencies. According to the research results, individuals who have strong academic procrastination tendency have the tendency not to perceive or distort the experiences that may affect self-esteem in order to protect it. According to this, when students delay academic duties such as preparing for exam or doing homework, they may have some negative results which may decrease self-esteem. This is why; it is possible to decrease academic procrastination behavior in order to prevent negative results and decrease of self-esteem.

It is found in this research that academic self-efficacy explain academic procrastination behavior at -.11 level in total. Namely, when a university student believes that he/she has the ability to cope with academic problems, this decreases academic procrastination behavior. When the related literature is analyzed, it is seen that there are researches showing that academic self-efficacy belief negatively affects academic procrastination (Akday and Gizir, 2010; Klassen et al., 2007; Özer and Altun, 2011). In the meta-analysis study of Eerde (2003) about academic procrastination, it is determined that self-efficacy belief affects procrastination behavior negatively. In the research by Klassen et al. (2007), it is found that there is a negative relation between the increase in self-efficacy belief and academic procrastination. In the research by Chow (2011) on 288 university students, regression model is used and it is found that students' self-efficacy belief negatively explains academic procrastination. According to Bandura (1986), who is one of the first people who analyzed self-efficacy concept hypothetically, when an individual's self-efficacy level increases and experiences sufficient motivation, he/she decreases procrastination behavior and increase determination in order to complete duties. Thus, students may have belief in academic planning skills, studying lesson methods, academic efforts in order to cope with academic problems. Students, whose belief in these is high, may attempt to cope with academic problems and duties instead of avoiding them.

It is determined in the research that coping with stress

skills is one of the variables that explain academic procrastination. It is seen that active planning, which is one of the coping with stress skills, affect academic procrastination negatively and at meaningful level. According to this, students who use planning skills in order to cope with stress factors do less academic procrastination. There are limited number of studies that support this finding in the related literature. According to Lazarus and Folkman (1984) active planning is one of the cognitive based coping skills. According to Essau et al., (2008), cognitive based coping skill is a variable that negatively explains procrastination behaviors. Milgram et al. (1995) state that the reason of academic procrastination behavior is low time planning skill. According to Lazarus and Folkman (1984), individuals who have cognitive based coping skills believe that they can control situations that create stress factor and they can overcome such situations. This is why, in scope of the cognitive based coping skills, in order to overcome stress factor, a plan and program can be used. This suggests that when academic duties and responsibilities create a stressful situation, students can overcome such situations by using the abilities of planning and organizing duties. Thus, instead of avoiding academic duties, they can attempt to complete academic duties by controlling the process. According to Lazarus and Folkman (1984), active planning is one of the cognitive based coping skills. According to Essau et al. (2008), cognitive based coping skill is a variable that negatively explains procrastination behaviors.

At the end of the research, it is seen that biochemical avoidance coping with skills affect academic procrastination positively and at a meaningful level. According to this, students who use avoidance skills in order to overcome stress factors make more academic procrastination. There are studies that support this finding in the related literature (Burns, Dittmann, Nguyen and Mitchelson, 2000; Essau et al., 2008; Solomon and Rothblum, 1984). In a study by Burns, Dittmann, Nguyen and Mitchelson (2000), they found that students who want to overcome academic duties that cause stress factor make procrastination by using avoidance coping with strategy. According to Lazarus and Folkman (1984), biochemical coping with strategy is one of the emotion based coping skills. According to Essau et al. (2008), emotion based coping skill is a variable that negatively explains procrastination behaviors. According to Tice and Baumeister (1997) making procrastination means avoiding a stress resource for some time. According to Sirois and Pychyl (2002), procrastination is about high stress and avoidance strategies. In a research by Cao (2012), an attempt was made to explain academic procrastination behavior with hierarchical regression model. At the end of the research, he determined that avoidance behavior predicts active procrastination .21; academic procrastination behavior at .16 level. In this context, it is possible to say that academic duty and responsibilities create stress and

students use avoidance coping with skills in order to avoid this stress. In other words, in biochemical coping with skills, individuals prefer suspending anxiety factors in order to avoid a situation that threatens ego or to decrease anxiety. Students may attend social activities with friends, surf in the internet, play game or do shopping in order to avoid the pressure of academic duties.

On the other hand, when correlation coefficients between self-esteem and academic self-efficacy and academic procrastination, it is seen that there is a meaningful and negative relation but their power decreases in the model. When the model is analyzed, it is seen that self-esteem and academic self-efficacy belief have the duty to explain other related variables. This is why, it is possible to say that total explaining power of self-esteem and academic self-efficacy belief is shared and their power to affect academic procrastination behaviors decrease. In addition to this, it can be said that there are also some other variables in the model that are more powerful than self-esteem and academic self-efficacy belief in explaining academic procrastination and these two variables' explaining power decrease because of that.

This study has some limitations. In order to see the real effects of independent variables on academic procrastination, experimental and longitudinal researches are necessary. This is why, one should be careful while analyzing results. On the other hand, in order to understand the reasons of students' academic procrastination behaviors better, some qualitative studies, such as interviews, can be carried out. This study is conducted on university students. For future studies, academic procrastination behaviors of students in different education levels can be analyzed through comparison.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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