# Assessing the competence of other auditors : assessment processes and feedback interventions

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# ASSESSING THE COMPETENCE OF OTHER AUDITORS: ASSESSMENT PROCESSES AND FEEDBACK INTERVENTIONS.

A Dissertation in Fulfillment of the Requirements for the Degree of Doctor of Philosophy

By

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SCHOOL OF ACCOUNTING

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Dedicated to my most important teachers.

Brian Harding
Kay Harding

# Certification

I hereby declare that this submission is my own work and that to the best of my knowledge it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at UNSW or any other educational institution except where due acknowledgement is made in the thesis. Any contribution made to the research by others, with whom I have worked at UNSW or elsewhere, is explicitly acknowledged in the thesis.

I also declare that the intellectual content of this thesis is the product of my own work, except to the extent that assistance from others in the project's design and conception or in style, presentation and linguistic expression is acknowledged.

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Noel.

# Abstract

This dissertation investigates conditions necessary for the audit workpaper review process to achieve its quality control objective. Auditing standards require that when determining the appropriate level and extent of workpaper review, reviewers should have regard to the preparer's professional competence. Prior research (Kennedy and Peecher 1997; Tan and Jamal 2001), however, suggests that auditors do not accurately or objectively assess a preparer's competence. This, in turn, can lead to ineffective and/or inefficient reviews.

This dissertation reports on two studies examining the assessment of another auditor's competence. Study One uses verbal protocol methodology to investigate the process by which auditors assess the competence of other auditors. Study Two, a behavioural experiment, uses the results from Study One to investigate a feedback intervention aimed at improving competence assessments.

Study One revealed that auditors rely heavily on an initial reference point when assessing the competence of other auditors. Given that the protocols revealed little processing of the initial reference point, the accuracy of the reference point is an important factor in determining the accuracy of the final assessment. The results also revealed that there was consistency between the assessor - assessee relationship and the initial reference point employed. This was especially the case when assessing the competence of a peer.

Study Two drew on the results from Study One to investigate whether the provision of outcome feedback can improve assessments of another person's competence. Two types of outcome feedback were investigated; feedback relating

to the specific assessee, and feedback relating to a group of people from which the assessee is drawn. Results revealed that outcome feedback has the potential to improve competence assessments. However, the effectiveness of the two types of feedback varied according to the relationship between the assessor and assessee.

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# Chapter One
# Introduction

## 1.1 Introduction

In today's environment, audit firms are facing unprecedented pressures and challenges. The undermining of public confidence (eg. Enron and Worldcom), the collapse of Arthur Anderson, an erosion of traditional audit markets, increased competition in new markets, increased litigation, and escalating costs, all mean that audit firms are being forced to redefine what they do and how they do it. Audit quality is constantly questioned in the financial press.

A critical aspect of audit quality is the audit workpaper review process (hereafter referred to as the review process or workpaper review). The review process is a procedure whereby audit workpapers are reviewed by progressively more experienced (and expensive) audit staff with a view to ensuring generally accepted auditing standards and firm specific procedures have been followed (Solomon 1987). The review traditionally begins with a senior reviewing the work of a staff auditor. This is followed, in turn, by manager and partner reviews. On occasions, there might be an additional layer of review performed by an independent partner (concurring partner review). The workpapers are not passed on for higher level review until such time that the lower level reviewer is satisfied as to their adequacy.

Audit firms place a heavy reliance on the review process in order to detect and correct errors prior to the final audit opinion being issued (Bamber and Bylinski 1982; Solomon 1987). Bamber and Bylinski (1987) have reported that a

significant proportion of total audit hours are spent on review related matters. Gibbins and Trotman (2002) investigated mangers' conduct of workpaper review and reported that managers spent up to 150 hours completing their review (average 20.6 hours). The significance of the review process and the time allocated to it highlights the importance of review effectiveness and efficiency.

An important factor determining the effectiveness and efficiency of the review process is the level and extent thereof. Auditing standards require that when determining the level and extent of workpaper review, reviewers should have regard to the professional competence of the assistant completing the work (AUS206; ISA220). The effective and efficient conduct of workpaper review, therefore, relies on reviewers being able to accurately assess the workpaper preparer's professional competence. Overstating competence will result in effectiveness losses as the review will be less comprehensive than needs to be the case. Understating the preparer's competence will result in efficiency losses as the review will be more comprehensive than needs to be the case.

Ongoing attempts to improve the effectiveness and efficiency of the review process further highlight the importance of being able to accurately assess preparer competence. One change being implemented by some audit firms is a reduction in the volume of workpaper documentation (Rich, Solomon, and Trotman 1997b). In this regard, if the result of the audit work is consistent with expectations, it would only be necessary for the preparer to note this conclusion and make reference to the audit program. Detailed workpapers would not be necessary. An inconsistent result would require greater documentation. If the preparer concludes that the results are consistent with that expected, the reviewer would not be able to review detailed workpapers to confirm that conclusion. The

reviewer must, therefore, ensure that the preparer has the required competence to correctly conclude from the evidence gathered before they commence the work.

A number of studies have shown that reviewers are sensitive to the *perceived* competence of hypothetical preparers (Bamber 1983; Bamber and Bylinski 1987; Asare and McDaniel 1996) and actual preparers (Gibbins and Trotman 2002). These studies, however, have not explored whether reviewers can accurately assess the competence of preparers. That is, are reviewers sensitive to *accurate* perceptions of preparer competence? Despite its importance to the efficient and effective conduct of workpaper review, there is surprisingly little research in this area.

Kennedy and Peecher (1997) directly and Jamal and Tan (2001) and Tan and Jamal (2001) indirectly focus on the accuracy with which auditors assess the competence of other auditors.[1] The findings reported in these studies suggest that assessments of a preparer's competence may not be accurate.

Kennedy and Peecher (1997) report results supporting their expectation that auditors overestimate (are overconfident in) both their own and their subordinate's technical knowledge. This was the case, notwithstanding the fact that Kennedy and Peecher used authentic supervisor-subordinate relationships. Despite, or possibly as a result of (see Tan and Jamal 2001), the fact that their research subjects had first hand exposure to their subordinate's knowledge, they still failed to accurately assess that knowledge.

[1] While some studies have investigated ex-post performance evaluation of auditors (eg. Kaplan and Reckers 1985) or the performance dimensions perceived to be important for auditors to succeed within public accounting firms (eg. Emby and Etherington 1996) these are separate issues to the assessment of competence.

Tan and Jamal (2001) examined whether managers were able to objectively assess the quality of a subordinate's work. That is, were the assessments influenced by the manager's prior impression of the subordinate's competence rather than actual present performance? Their results indicated that reviewers were influenced by the preparer's identity and did not objectively evaluate the preparer's work.

Jamal and Tan (2001) although focussing on relative rather than absolute performance, report results consistent with the understanding that auditors perform no better than chance when predicting the preferences of other auditors. Table One in their paper reveals that approximately 50% of their subjects were unable to predict the preferences of their colleagues on a dichotomous response task.

The review process has been associated with audit effectiveness and efficiency gains (eg. Libby and Trotman 1993; Ramsay 1994; Asare and McDaniel 1996; Harding and Trotman 1999). These gains, however, rest in part on the reviewer's ability to determine an appropriate level of workpaper review. While, for example, managers and seniors might complement each other by identifying relatively more conceptual and mechanical errors, respectively, (see Ramsay 1994), the number of conceptual and mechanical errors identified depends, in part, on the level and extent of workpaper review. If, given the preparer's actual competence, the level and extent of workpaper review is insufficient, there are likely to be errors that remain undetected. The fact that auditors are unable to accurately assess competence (Kennedy and Peecher 1996; Tan and Jamal 2001) and are likely to act on these incorrect assessments (eg. Bamber 1983; Gibbins and Trotman 2002) means that the gains attributed to the

review process may not be fully realised.

A further problem associated with the inability to accurately assess a preparer's competence was highlighted by Rich, Solomon and Trotman (1997a). These authors, in presenting the review process from a persuasion perspective, note that reviewers will use their knowledge of the preparer's competency (amongst other things) to devise a strategy in order to cope with the persuasive messages that may be contained in the workpapers. Given that reviewers may not be able to accurately assess the preparer's competency, reviewers may employ inappropriate strategies thereby failing to satisfactorily cope with the persuasive messages contained in the workpapers.[2]

The remainder of this chapter is organised as follows. The following section describes the research aims of the dissertation which is followed by a consideration of the dissertation's contributions. Section four discusses the competence / performance framework within which the dissertation is based. The final section provides an outline of the structure of the dissertation.

## 1.2 Research Aims

Within the above context, this dissertation has two aims. These aims are pursued with the conduct of a verbal protocol study and a behavioural experiment.

The first aim is to understand the process by which auditors assess the

[2] In addition, Rich *et al.* (1997a) argue that reviewers use the workpapers prepared by their subordinates to revise their perceptions of the preparer's ability. Given that reviewers may not be able to cope with the persuasive messages contained in the workpapers, it will be difficult for them to accurately revise their perceptions of the preparer's ability. In this way, overly optimistic assessments of competence can become self perpetuating.

competence of other auditors. As is clearly recognised in the literature, in order to investigate interventions that may improve decision making, it is first necessary to understand how those judgements are currently being made (eg. Libby and Fishburn 1977; Lewis, Shields, and Young 1983; Hogarth 1991; Libby and Luft 1993; Trotman 1996). In doing so, it lays the theoretical foundation for future efforts aimed at improving competence assessments as well as allowing a more detailed understanding of the results from previous studies.

This aim is pursued in Study One which employs concurrent verbal protocol methodology. Study One also applies the findings from the psychology literature to the audit environment with a view to identifying any consistencies between the process used to assess competence and the assessment circumstances (in this dissertation, the relationship between the assessor and the assessee).

The second aim of the dissertation is to explore how outcome feedback might be used to improve judgements of another auditor's competence. Asymmetric feedback in the workpaper review environment is likely to be one factor contributing to inaccurate competence assessments. The study explores whether more balanced outcome feedback is effective in improving competence assessments. This aim is pursued in Study Two which employs a behavioural experiment.

## 1.3 Contributions

Despite its importance to a successful audit, Rich *et al.* (1997b) highlight that little research attention has been directed towards the planning stage of the review process, with no studies at that time investigating process gains associated therewith. The research reported in this dissertation addresses this lack of research

attention. Indeed, Rich *et al.* specifically note the validity of a reviewer's appraisal of the workpaper preparer, and the situational influences impacting on the appraisal, as research questions relating to the review process model they put forward.

Within this general setting, this dissertation makes a number of methodological, theoretical, and practical contributions that are outlined in the following sections.

### *1.3.1 Methodological Contributions*

The verbal protocol study (Study One) makes a methodological contribution in that it uses protocol methodology within an experimental (laboratory study) setting. That is, it exhibits the elements of a traditional laboratory study except that data is extracted from verbal protocols rather than, for example, likert type scales. The author is not aware of any study using protocol data in this way. The use of protocol data in this way represents considerable potential for the future study of human judgement and decision making when information retrieval from memory is the primary determinant of performance.

### *1.3.2 Theoretical Contributions*

This dissertation contributes to an understanding of the process by which auditors assess the competence of other auditors. In doing so, it begins to lay the theoretical foundation for future efforts directed towards improving the accuracy with which auditors assess the competence of their colleagues. While this is a direct contribution to the auditing literature, the dissertation also makes a contribution to the social psychology literature. The findings reported in this dissertation may guide future endeavours aimed at understanding the process in more general social interaction contexts. Prior accounting and psychology

literature has only speculated on the process used to assess another person's competence, usually as part of the discussion of their results. While their findings are consistent with these suggestions, they do not demonstrate the processes underlying the judgements being studied. The danger is that several (perhaps quite different) processes might be consistent with the final decision. This danger was illustrated by Biggs and Mock (1983) who report that while the final sample size decision of one of their subjects was consistent with an anchoring and adjustment process, the verbal protocols revealed the use of a different heuristic. Study One provides more direct evidence on the processes underlying the assessment of another auditor's competence.

Study Two contributes to the feedback literature in that it investigates the benefit of outcome feedback in an environment requiring the acquisition of both declarative and procedural knowledge (see Bonner and Walker 1994). Previous studies investigating outcome feedback have focussed on the acquisition of procedural knowledge.

### *1.3.3 Practical Contributions*

This dissertation has a number of implications for the understanding and improvement of the practice of workpaper review and other areas where assessing another person's competence or ability is important. The results are consistent with previous research reporting overconfidence when assessing the competence of others. The results from Study One reveal a potential reason for this overconfidence. The results from Study Two, which draw on the theoretical foundation provided in Study One, suggest that outcome feedback might be used to improve auditor assessments of their colleagues' competence.

Beyond the implications for the review process, the dissertation's results are

also of interest to other areas of the audit function. Overstating an auditor's competence has the potential to affect audit planning, in particular, the allocation of audit juniors to tasks they are ill-equipped to complete. In addition, auditing standards (AUS402; ISA400) require auditors to assess the knowledge and competence of client management and other client personnel when determining inherent and control risk. This dissertation highlights that such assessments might be problematic and proposes an intervention that might improve audit practice in this area.

The results reported in this dissertation support the increasing use of teams and group decision making in the review process and other aspects of the audit function.

The following section outlines the framework within which this dissertation examines competence.

## 1.4 Competence / Performance Framework

Throughout this dissertation, a central concept is that of competence. Study One examines how competence is assessed while Study Two examines how to improve the accuracy of competence assessments.

Competence is the capacity to successfully perform a task. Libby and Luft (1993) define performance as a function of knowledge, ability, motivation, and the decision making environment. The capacity to successfully perform a task (ie. competence), therefore, depends on the judge's knowledge, ability, motivation, and environmental factors.

One approach to the investigation of competence is to examine each of these components individually. By examining a component of knowledge, Kennedy and

Peecher (1997) is an example of this approach. An alternative is to look at future performance which requires a simultaneous examination of all aspects of competence. While not focussing on competence, Jamal and Tan (2001) adopt a similar approach by asking their subjects to predict the decision that would be made by another auditor. This second approach captures the product of the complex interactions between knowledge, ability, motivation, and environmental factors.

While knowledge, ability, and, to a lesser extent, motivation are expected to be highly correlated with performance, to only consider one aspect of competence precludes an investigation of the potential interaction between the components. In addition, it is not inaccurate assessments of knowledge or ability that have the potential to affect review effectiveness and/or efficiency, but rather inaccurate assessment of the product of these components, namely preparer performance. For these reasons, this dissertation focuses on the outcome of competence, namely performance. As discussed in future chapters, this is operationalised by focussing on anticipated future performance (Study One) or actual past performance (Study Two).

## 1.5 Structure of the Dissertation

As noted above, the research aims are pursued with the conduct of two studies. Study One (Chapter Three) provides the foundation for Study Two (Chapter Four). Consistent with the sequential nature of the two studies, the specific theoretical background and supporting arguments for each study are considered at the beginning of each chapter.

These specific literature reviews, however, do not permit an understanding of

the review process literature to which the present dissertation contributes. Chapter Two, therefore, reviews the extant review process literature and highlights that while there is a growing literature, we are still some way from being able to advise auditors of the most effective review process structure for the unique circumstances of each individual audit. The literature review is structured into two sections. The first section examines research describing the review process while the second section examines research investigating the influence of the review process on audit effectiveness and efficiency.

Chapter Three reports on a verbal protocol study (Study One) aimed at understanding the process by which auditors assess the competence of other auditors. Previous studies have suggested processes that may underlie the assessment of another person's competence (or components thereof). These suggestions, together with the social and cognitive psychology literatures are considered in light of the unique characteristics of the workpaper review environment. This analysis also allows for suggestions to be made about specific and critical elements of the process together with the association between these elements and the assessor-assessee relationship. The hypotheses are tested in light of the protocol data.

Chapter Four draws on the results from Study One and reports on a behavioural experiment (Study Two) examining the impact of outcome feedback on the assessment of competence. Study One reveals that auditors rely on a small amount of information retrieved from memory when assessing the competence of their colleagues. Although there was variation in the type of information relied on, there was some association between the type of information relied on and the asessor-asessee relationship. Study Two suggests reasons why the information

relied on might be inaccurate and proposes that outcome feedback might be useful in improving competence assessments. However, the benefit of different types of outcome feedback is argued to be contingent on the assessor-assessee relationship.

Finally, Chapter Five integrates the findings from Study One and Study Two and provides a summary of the key contributions of the dissertation. The practical implications are outlined in light of the results. The chapter also highlights some opportunities for future research.

Five appendices are presented at the end of the dissertation. Appendix One presents a summary of the accounting and auditing research employing verbal protocol methodology. Appendix Two presents the research instrument used in Study One. Appendix Three presents the confidentiality considerations incorporated into the administration of Study Two. Appendix Four presents the research instrument used in stage one of Study Two. Finally, Appendix Five presents the research instrument used in stage two of Study Two.

# Chapter Two
# Literature Review

## 2.1 Introduction

This chapter reviews the literature examining the aspect of the audit function within which the present dissertation is situated, namely, the audit workpaper review process. The specific theoretical background and supporting arguments for each of the hypotheses examined in Study One and Study Two are presented at the beginning of Chapter Three and Chapter Four, respectively.

Relative to other areas of the audit function there is only a limited, but growing, literature examining the review process. This is despite the reliance audit firms place on the review process, and its importance to an effective and efficient audit. This chapter reviews the literature on the review process and concludes that while we now have some knowledge of the environmental, reviewer, and preparer characteristics that influence the way workpaper review is performed, the present and potential contribution of the review process to audit effectiveness and efficiency, and possible future directions for the review process, we are still some way from having the required understanding necessary to determine the most appropriate workpaper review format. This goal is made more difficult with the realisation that broad prescriptions are unlikely to be effective in the face of circumstances unique to individual audits.

For the purpose of this review, the literature is broken up into two categories; those studies describing the review process, and those focussed on the

investigation and documentation of the influence of the review process on audit effectiveness and efficiency.[3]

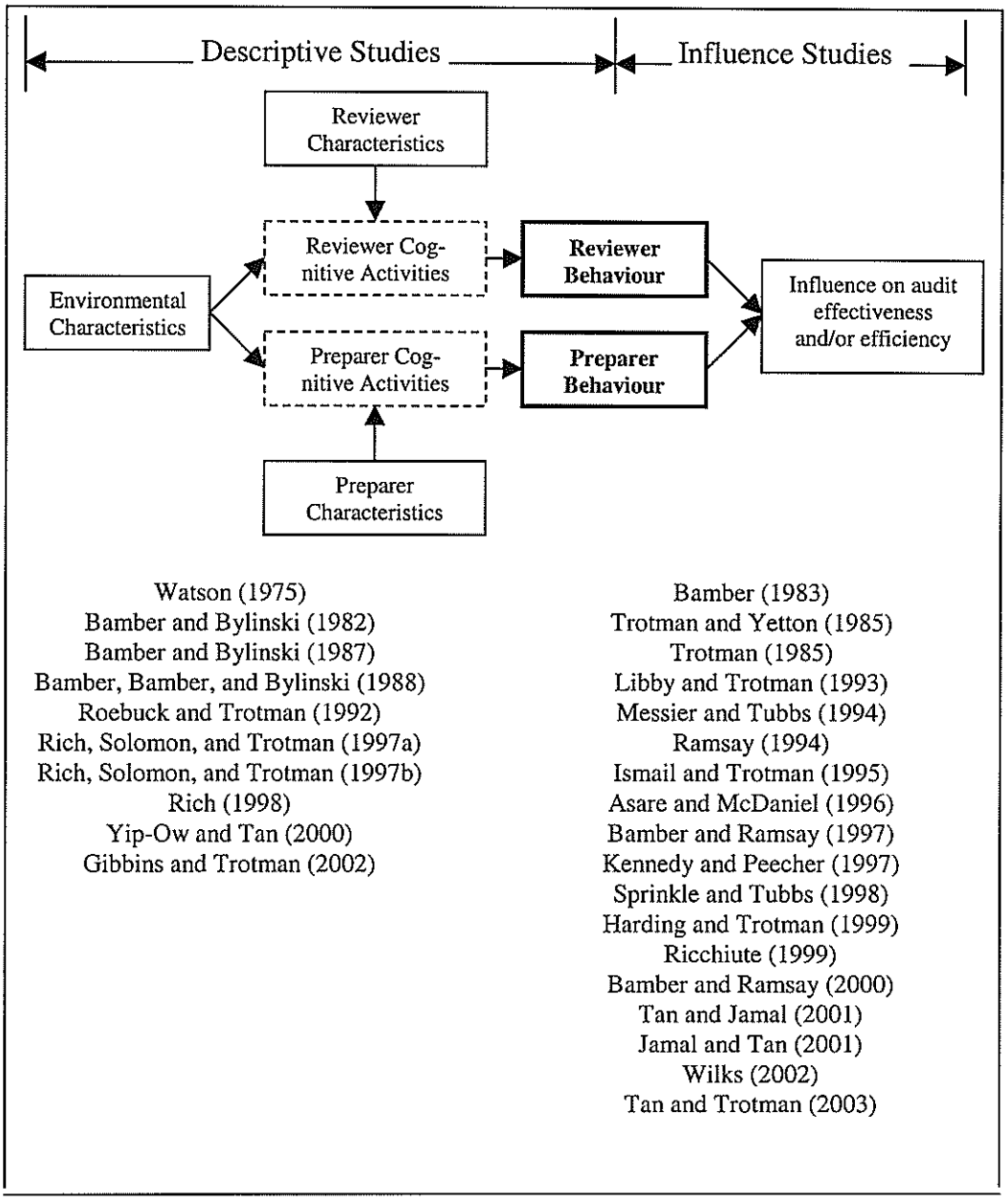
The behaviour of the workpaper reviewer and workpaper preparer is central to an understanding of the review process. Reviewer and preparer behaviour is an artefact of environmental characteristics interacting with individual reviewer and preparer characteristics. These characteristics influence reviewer and preparer cognitive activities which, in turn, lead to the behaviour of the review process participants. This behaviour, either individually or in combination with other elements of the audit function influences audit effectiveness and/or efficiency. The influence is not always positive as research reviewed in Section 2.3 reveals.

This representation, which places reviewer behaviour at the centre of the framework is presented in Exhibit 1 (over page). Exhibit 1 also lists the research that is reviewed in this chapter.

The following section reviews the descriptive studies, this is followed by an examination of those studies investigating the influence of the review process on audit effectiveness and efficiency. The chapter concludes with an observation that while we understand a great deal more about the review process now that was the case 20 years ago, there is still much to learn and understand.

[3] This review does not include those studies that have used the prospect of a review to establish accountability relationships (eg. Kennedy 1993; Tan 1995).

**Exhibit 1**
***Review Process Framework***




## 2.2 Descriptive Studies

Descriptive studies in the review process literature document the activities that take place within this component of the audit. While the results from these studies sometimes lead the author(s) to suggest ways in which the review process

contributes to or detracts from audit effectiveness and/or efficiency, the goal remains to document, and sometimes explain, these activities.

Early work that set out to describe the review process generally did so by way of surveys and interviews. Watson (1975), for example, investigated the structure of project teams within public accounting firms. Adopting a contingency perspective, he hypothesised that the uncertainty inherent in the task environment will affect the way in which project teams are structured, a component of which is the degree to which workpapers are reviewed. Using questionnaires and interviews, he found only mixed results in relation to the hypotheses, with virtually no difference in the level of review across different task environments.[4]

Bamber and Bylinski (1982) also employed an organisational approach to the study of the review process. They proposed an information processing model that linked the efficiency and effectiveness of an audit to the match between the information processing requirements and the information processing capacity. Processing requirements were argued to be determined by both the environment and technology, while processing capacity was determined by organisational structure. Bamber and Bylinski go on to describe the role of the review process as inferred by the information processing model. Specifically, the review process was argued to be a component of control, which according to the model, contributes towards the audit firm's information processing capacity. In addition, Bamber and Bylinski also report the results of a number of unstructured interviews. These interviews primarily highlighted that while there was an emphasis on control,

[4] Watson (1975) also hypothesised that audit divisions face less task uncertainty than management services divisions. This was subsequently supported and used to hypothesise structural differences.

there were differences in perceptions as to the purpose of the review and the methodology that should be employed.

Bamber and Bylinski (1987) examined the amount of time a manager commits to the review of audit workpapers, and whether this time commitment is sensitive to changes in the task environment. These authors employed a detailed hypothetical review case in which the task environment and time pressure were manipulated.[5] The 73 audit managers involved were required to estimate the time necessary to review the workpapers relating to the four accounts. The results indicated that managers planned to spend over fifty percent of their time reviewing the workpapers, and that this time commitment was sensitive to changes in the importance of each account. However, the amount of time committed to the review effort was not affected by changes in time pressure. Furthermore, there were differences in review effort identified between the managers of different audit firms.

Using the same research subjects and case materials, Bamber, Bamber, and Bylinski (1988) extended Bamber and Bylinski (1987) by describing the information processing aspects of the review process. The 73 managers to whom the case materials were administered identified both the review activities they would perform, and the audit procedures they would review. An analysis of these responses highlighted that the intended scope of the review is driven by a detailed and comprehensive information search. Consistent with earlier work, there were differences in the intended scope between managers.

[5] The task environment was manipulated by having the subjects review four separate accounts which exhibited different levels of materiality and risk.

While Bamber and Bylinski (1987) and Bamber *et al.* (1988) attempted to contextualise their description of review activities by providing a detailed hypothetical case study, their results were still based on the individual's assessment of intended review work. In contrast, Roebuck and Trotman (1992) described review practices by focussing on the review notes of managers in actual audits. By examining 3,008 separate review notes from 28 audit engagements, Roebuck and Trotman found that the primary focus of the review notes was on additional explanations, additional audit work, and follow up enquiries, as well as improvements in documentation. They also found considerable variability in the type of review conducted by 13 of the managers involved in the study.

Yip-Ow and Tan (2000) examined the influence of a review environment characteristic on reviewer behaviour, namely, the presence of a preparer's conclusion justification memo. A preparer's conclusion justification memo often accompanies the audit workpapers but had not previously been incorporated into studies examining reviewer behaviour. All subjects reviewed the same analytical procedure workpapers with exposure to the preparers justification memo manipulated.[6] Their results revealed that seniors who had read the preparers justification memo generated significantly fewer plausible error causes and indicated significantly higher likelihood of the suggested non-error cause (compared to those who had not read it). The likelihood assessments were reduced, although not entirely mitigated, by either having reviewers generate alternative hypotheses for the change, provide a justification for one alternative

[6] The justification memo contained information supporting the preparers conclusion of a non error cause of an increase in gross profit and gross profit margin.

explanation for the change, or first making an independent assessment (prior to reading the preparers justification memo).

Unlike the studies reviewed above, Rich, Solomon, and Trotman (1997a) discussed both reviewer and preparer behaviour in the review process. Recognising that workpapers are the primary means by which preparers demonstrate their proficiency to superiors, Rich *et al.* described the review process from a persuasion perspective. That is, they argued that preparers (and reviewers as co-composers) have the opportunity to enhance their reputation by influencing the content and format of the workpapers, referred to as workpaper stylisation.

Drawing on persuasion models from the social psychology literature (Petty and Cacioppo 1986; Friestad and Wright 1994), Rich *et al.* (1997a) described potential preparer stylisation behaviour, the way in which reviewers may cope with such behaviour, and the way reviewers may themselves become co-composers of persuasive messages directed towards those performing higher level reviews.

Rich *et al.*'s (1997a) characterisation of the review process was important in that it extended the description of the review process beyond quality control which had been emphasised in other descriptive studies. A number of recent papers have explored issues arising from Rich *et al.*'s characterisation of the review process both in terms of describing the review process and examining the way in which it influences audit effectiveness and efficiency.

Rich (1998) investigated the way in which two environmental factors (auditor business risk and strategic preparer behaviour) interact to affect reviewer

elaboration (critical *vs* supportive) and review judgements.[7] Specifically, he proposed that when auditor business risk (ie. risk of monetary or reputational losses) is high, the type of reviewer elaboration will depend on potential strategic preparer behaviour. Where auditor business risk is low, reviewer elaboration is independent of strategic preparer behaviour. Reviewer elaboration was argued to, in turn, affect reviewer judgements. The results supported these hypotheses and highlighted the importance of considering interactions between the environmental factors faced by reviewers. The beneficial elements of the review process (outlined in a later section) may be conditional on environmental factors. For example, Rich's results suggest that the propensity of reviewers to focus on information inconsistent with the preparer judgement (Libby and Trotman 1993) may be moderated by anticipated strategic preparer behaviour.

Gibbins and Trotman (2002) provide evidence on persuasion and other activities in the review process. In particular, they describe relationships between the manager's conduct of the workpaper review (time taken and quantity of review notes) and the manager's expectations about the client, preparer, partner, and the manager's own review approach. Using a retrospective field questionnaire, 68 managers answered questions on two actual reviews that varied in the number of review notes written.

In relation to stylisation, their results revealed that managers stylised their review for partners, supporting the notion of reviewers as co-composers of stylised

[7] Elaboration is a stage of the reviewer's judgement and decision making process in which they scrutinise the information acquired from the preparer comparing it with other available information (Rich *et al.* 1997a).

messages. No managers denied that preparers stylised work papers but stylisation only occurred in less than half of the reviews examined in this study. Managers did not believe that stylisation was improper but this might relate to the fact that most cases of stylisation involved the presentation of the workpapers rather than changing the audit work completed.

Supporting earlier descriptions of the review process, Gibbins and Trotman (2002) also found that risk was a key determinant of review extent but that account balance risk seemed more important than risk at the financial statement level. Preparer competence was also found to be an important factor determining the extent of review. In this regard, preparer opinion formation skills appeared to be more important than documentation skills. Managers review styles and their preferences were stable across the two reviews they reported on, suggesting a constant target towards which stylisation could be directed. Information was also provided on the characteristics that managers believed distinguished good and poor reviewers.

Rich, Solomon, and Trotman (1997b) rather than examining existing practice, described emerging trends in the conduct of the review process. Their analysis was based on partner interviews and an examination of in house documents from three of the then 'big-six' firms and revealed a number of common changes that were, at the time, being considered.[8]

First, the traditional multi-level hierarchical review will not automatically be adopted. Rather, a risk approach will be employed in order to tailor the review process to the requirements of the particular sections of the audit. Rich *et al.*

[8] Gibbins and Trotman (2002) note that these trends have subsequently become more prevalent.

(1997b) give the example of a low risk account for which only one low level of review will be performed. Alternatively, for high risk accounts, the manager and partner may both carry out a review (but no senior review will be performed). Second, there is a move away from the work-rework situation that was present in the traditional review process. Instead, there will be much more direction during the audit in order to ensure, at the time the work is being performed, that it is satisfactory. Third, the level of workpaper documentation is being dramatically reduced. Often if the result of the audit work is as expected, all that will be necessary is for the preparer to note this conclusion and make reference to the audit program. An unexpected result would lead to greater documentation. Finally, recognising the fact that only limited assurances will be available at the conclusion of the audit work, reviewers are engaging in real time review, attempting to gain assurances during the audit, by for example, questioning the preparer about the work they are performing.

A number of studies examining the impact of these changes on review effectiveness and efficiency are reviewed in the following section.

To date, the descriptive studies have provided an important insight into workpaper review activities associated with its quality control objective and, of late, the implications of the review process arising from its central role in appraising the performance of preparers and lower level reviewers.

We know that numerous factors influence reviewer behaviour, and that these relationships are likely to be complex. We know that non-quality control objectives (eg. stylisation) might interact with these factors. Less is known about preparer behaviour, but this is beginning to be addressed. Finally, we know that

the review process, operating almost unchanged for many years is presently being subjected to critical review and refinement.

These studies when combined with the findings of other studies reviewed in the following section provide a useful foundation for understanding the review process which is important when investigating its contribution to audit effectiveness and efficiency. The following section reviews those studies that examine the review process' influence on audit effectiveness and efficiency.

## 2.3 Studies Examining the Influence of the Review Process on Audit Effectiveness and/or Efficiency

Studies in this category investigate the affect of reviewer and preparer behaviour on audit effectiveness and efficiency. This may be within the context of existing review process structures, emerging structures, or other potential structures. In doing so, these studies also provide insight into the way in which the review process is performed and factors that influence the behaviour of its participants.

These studies have examined the influence on audit effectiveness and efficiency from three perspectives. First, they have considered the review process from a group decision making perspective. Second, they have considered differential (and possibly complementary) attention to different parts of the workpapers by those who perform workpaper review. Finally, they have considered reviewer responses to preparer preferences and competence. The following sections consider each of these perspectives.

### *2.3.1 The Review Process as a Group Decision Making Mechanism*

Recognising that the review process is a form of group decision making, a number of studies have drawn on the group decision making literature to explore effectiveness gains that might be associated with the review process.

Trotman and Yetton (1985) examined the potential of the review process to reduce judgement variance. They compared judgements before and after review. They also compared the gains from the review process with those derived from an interacting group of two seniors and their mathematical composite. Using 15 actual completed payroll internal control questionnaires, their subjects (seniors and supervisors) evaluated the control system for each company on a nine point scale. These seniors were also required to make similar judgements in a two person interacting group to which they were randomly allocated. Managers were asked to review the senior's judgement and, if necessary, revise the assessment of internal control.

The results showed that the review process reduced judgement variance (proxying for decision quality), but to no greater extent than interacting groups of seniors or their mathematical composites. The authors suggest that this may have been a function of the task. They note that for less routine tasks, "... an increase in performance could result from a review process and/or an interacting group" (Trotman and Yetton, 1985, p.265).

Similar results were found by Trotman (1985) who extended Trotman and Yetton (1985) by directly examining accuracy, rather than using consensus as a proxy. Using an inventory error case study developed by Weber (1978) and allowing the manager to interact with the senior during the review, Trotman found

that while the review increased accuracy, these judgements were not significantly different than those of the interacting group of seniors.[9] Unlike Trotman and Yetton, however, the interacting groups of seniors did outperform their mathematical composites.

Messier and Tubbs (1994) examined whether the review process, operationalised as a reviewer forming an independent opinion and thereafter combining it with the judgement of the subordinate by way of a weighted average, reduces the level of recency in audit judgements. Following the finding that more experienced auditors exhibit less recency than their inexperienced counterparts, Messier and Tubbs argue that the review of workpapers will lead to a reduction in recency only where the reviewer is more experienced than the reviewee. Where the reviewer has the same experience as the reviewee, they will both exhibit the same degree of recency, providing no potential for the reduction thereof. The results however showed that there was no reduction in recency when the work was reviewed, irrespective of whether the review was carried out by a more experienced auditor or not.

Ismail and Trotman (1995) examined two potential review process gains derived from group decision making activities. Employing a hypothesis generation task in which the subjects were required to list any errors that they thought were plausible explanations for changes in financial ratios, these authors examined the

[9] The study also used a more demanding task in order to permit the differentiation of expertise. Furthermore, interaction between the manager and senior during the review ensured that the reviewer knew the identity of the senior and was given the opportunity to assess their relative expertise.

number of plausible hypotheses generated both before and after a review. Drawing on the group decision making literature in both auditing and psychology, Ismail and Trotman hypothesised that: (i) review groups will generate a greater number of plausible hypotheses (outperform) than individuals; (ii) review groups with discussion will outperform the equivalent review group without discussion; and (iii) manager review groups will outperform senior review groups.

The results supported the first two hypotheses. The review process increased the number of plausible hypotheses generated by individuals. There was also marginal support for the contention that discussion review groups outperformed their non-discussion counterparts. Although the results did not support the hypothesis that manager review groups outperform senior review groups, there is the potential for efficiency gains in that manager review groups took less time to generate a similar number of plausible hypotheses.

Wilks (2002) examined one potential consequence of real time review, an emerging trend identified by Rich *et al.* (1997b). He noted that in an environment of real time review, subordinates become aware of their supervisor's views earlier than was previously the case. With this in mind, he investigated whether auditors with knowledge of their superior's view prior to evaluating evidence predecisionally distort that evidence and whether auditors anticipate any distortion effects on the judgements of subordinates. Predecisional distortion is the process of "...unconsciously interpret[ing] evidence in a manner that is overly consistent with supervisors views" (Wilks 2002 p.52). The issue was investigated in two related experiments.

In experiment 1, managers were asked to evaluate going concern evidence either before or after being made aware of the partner's views and then make a going concern judgement. The results revealed that auditors predecionally distort evidence and that this affects going concern judgements.

Experiment 2 examined whether auditors anticipate distortion on the part of other auditors. Audit seniors predicted the going concern judgement a new manager would make in the situation where either the manager was made aware of the partner's view prior to evaluating the evidence or after evaluating the evidence. Wilks' (2002) results revealed that seniors believed that managers would make decisions consistent with the partners view irrespective of when the partner's view become known. That is, they did not anticipate the increased chance of distortion when partner views were made known prior to evaluating evidence. However, prompting subjects with the time partner views became known helped them anticipate the increased chance of distortion. These results highlight potential losses of review effectiveness with the move towards real time review.

### *2.3.2 Differential Attention to Audit Evidence*

Another approach to the investigation of the review process has been to examine the focus of different auditors involved in the review process. These studies have demonstrated that auditors involved in the review process focus on different parts of the workpapers and can, therefore, sometimes complement each other.

Libby and Trotman (1993) suggested (based upon the psychology literature) that the preparer of the workpapers and the reviewer thereof will differentially

attend to particular items of audit evidence, and therefore will exhibit different tendencies to recall information. Specifically, they argue that the initial preparer / decision maker will give increased attention to audit evidence confirming their decision and, as a consequence, will recall more confirmatory evidence in a memory test. Reviewers on the other hand were argued to give increased attention to, and recall relatively more, evidence that is inconsistent with the initial judgement. Libby and Trotman therefore suggest that one potential contribution of the review process to audit effectiveness is the tendency of items recalled by preparers and reviewers to compensate for each other's deficiency in recall and, therefore, increase the chances that all evidence (both confirming and disconfirming) is adequately considered.

These propositions were supported in two related experiments. The results indicated that preparers' and reviewers' recall is indeed biased towards consistent and inconsistent evidence respectively, and that the reviewers' relative recall of inconsistent evidence increases as the number of inconsistent items in the audit notes decreases. This led the authors to conclude that cognitive biases relating to the recall of evidence are in part overcome by the review process.

Consistent with Libby and Trotman (1993), Ricchiute (1999) found that preparer's (senior's) recognition memory is biased towards evidence consistent with their substantial doubt (going concern) decision. Ricchiute, however, extended Libby and Trotman by examining whether this biased recognition impacts on the preparer's decision to document the evidence, their assessment of the importance of the evidence and, most importantly, whether the documented

evidence (which is a subset of all evidence) affects a reviewer's (partner's) decision.

In two related experiments, Ricchiute (1999) highlights that the potential gains identified by Libby and Trotman (1993) may not lead to improved review decisions. Experiment 1 reports results showing that a preparer's recognition memory is biased in the direction of their substantial doubt decision. While different substantial doubt decisions did not lead to differences in the propensity to document the recalled evidence in the workpapers, there were differences in the perceived importance of the evidence, again biased in the direction of the going concern decision.

In experiment 2, audit partners were exposed to either, all going concern evidence, only that evidence recognised and documented by those seniors who decided there was substantial doubt, or only that evidence recognised and documented by those seniors who decided there was no substantial doubt. A comparison of the decisions made by the partners revealed that different decisions were made by partners receiving the three different sets of information with decisions biased in the direction of the decision made by the seniors who documented the evidence. If partners are to give increased attention to evidence that was overlooked by preparers, the evidence must be available at the time of the review. The results reported by Ricchiute suggest that this might not be the case.

Sprinkle and Tubbs (1998) also investigated whether aspects of reviewers' memories can contribute to audit effectiveness and/or efficiency. They argued that audit risk and importance of the information would affect memory accuracy and willingness to rely on memory. Specifically, the greater the risk or importance, the

greater the memory accuracy and the greater the propensity to refer back to the original workpapers (rather than relying on memory). Twenty-eight subjects reviewed two accounts; inventory and accounts receivable. Risk was manipulated across the two accounts. The importance of each item subject to the memory test was assessed by three partners and two managers (importance varied within each of the two accounts). Using signal detection theory which they argued provided a more complete measure of accuracy (compared to percentage correct), their results revealed that reviewers were relatively more accurate in their memory for workpaper contents with high risk or high importance. While reviewers were less willing to rely on their memory for important workpaper items, this was not the case for higher risk accounts. In general, their results demonstrate that reviewers act in a manner consistent with the achievement of effectiveness and efficiency gains.

Libby and Trotman (1993), Ricchiute (1999), and Sprinkle and Tubbs (1998) examined reviewers' and preparers' differential attention to elements of the workpapers and the impact this might have on audit effectiveness and efficiency. A number of papers have focussed on differential attention to specific types of errors.

Ramsay (1994) noted the fact that while earlier work by Trotman and Yetton (1985) and Trotman (1985) highlighted that a review is associated with reduced judgement variability and increased accuracy, there appeared to be little benefit in a manager conducting the review as interacting groups of seniors were just as effective. He argued, based on the psychology literature, that an experts' knowledge is structured around a conceptual framework, while a novices'

knowledge is structured around a mechanical framework. Ramsay equated audit managers and seniors with experts and novices respectively, and suggested that differences in knowledge structure result in managers and seniors adopting different templates in order to guide their review of the workpapers. Managers were argued to adopt a conceptual template while seniors adopted a mechanical template. With this in mind, he hypothesised that "...managers will be more accurate than seniors at detecting conceptual errors, while seniors would be more accurate at detecting mechanical errors"(p.128).[10]

Auditors (managers and seniors) conducted a review of a hypothetical set of workpapers with seeded mechanical and conceptual errors. Reviewer performance was measured by having subjects answer 16 true/false questions that related to the seeded errors. The test was completed with reference to the review notes prepared, but not the workpapers.

The results revealed that seniors significantly outperformed managers in relation to mechanical errors. The opposite was true for conceptual errors. Ramsay's findings suggest that the effectiveness of the review process is improved by focussing the attention of the reviewer on the detection of particular errors (ie. a specialised review).

Harding and Trotman (1999) demonstrated that staff (assistant auditors) are even more focussed on mechanical errors than seniors, thereby highlighting the potential for efficiency and effectiveness gains by including staff auditors in the review process. They argued that seniors (particularly experienced seniors)

[10] Mechanical errors were defined as "objective, verifiable and concrete". Conceptual errors were defined as "subjective, unverifiable, and imprecise" (Ramsay, 1994, p.131).

develop a conceptual template in advance of becoming a manager and use that conceptual template to guide their review. Staff auditors, on the other hand, develop review skills from being the focus of the review and therefore use a mechanical template to guide their review. Using the same research materials as Ramsay (1994), they found that seniors were more accurate than staff auditors in the identification of conceptual errors and the opposite was true for mechanical errors. Their results also revealed that a composite group consisting of a staff and senior auditor outperformed composite groups of two seniors or two staff auditors, thereby lending support to a hierarchical review structure.

Ramsay (1994) and Harding and Trotman (1999) lend support to the notion that reviewers within a hierarchical review structure should be directed to focus on particular types of error. In a study investigating the probity of a focussed or specialised review, Bamber and Ramsay (1997) examine whether review effectiveness is enhanced by focussing the reviewer on the identification of particular workpaper errors. The combined reviews of managers and seniors were more accurate that the reviews of either managers or seniors in isolation (for both specialised and comprehensive reviews). However, their findings indicated that when managers and seniors were directed to focus on the detection of conceptual or mechanical errors respectively, they exhibited lower performance than was the case when they were instructed to carry out a comprehensive review. Their results provide evidence of the gains from hierarchical review, but cast doubt over the merits of a specialised review focussing on particular types of errors.

Noting that Bamber and Ramsay (1997) found that specialised reviews, although prescribed in practice, led to less effective reviews (as compared to

comprehensive reviews), Bamber and Ramsay (2000) investigated whether efficiency gains can be attributed to a specialised review. They examine review efficiency on three dimensions; time, confidence, and calibration. Their results revealed that both managers and seniors took more time to complete a specialised review. While seniors, but not managers, were more confident in specialised reviews, both managers and seniors review judgements were less calibrated when performing specialised reviews. These results cast even further doubt on the merits of a specialised review.

Asare and McDaniel (1996), like Ramsay (1994) and Harding and Trotman (1999) examined performance in the identification of different types of workpaper errors. Asare and McDaniel, however, examine the ability of reviewers (seniors) to identify classification and conclusion errors under different preparer and task complexity conditions, not different hierarchical levels. Classification errors are those where the preparer incorrectly classifies audit evidence as, for example, a control exception when in fact it is not an exception. Conclusion errors are those where an incorrect conclusion is drawn on the basis of evidence collected. In an experiment where preparer familiarity and task complexity were manipulated, Asare and McDaniel report that when reviewing the work of an unfamiliar preparer, reviewers were relatively less confident in the work of the preparer, re-performed more of their work, but did not identify more classification errors than when reviewing the work of a familiar preparer. Familiarity interacted with task complexity in determining reviewer performance in detecting conclusion errors. Reviewers of work prepared by a familiar preparer identified more conclusion errors when confronted with a complex as opposed to routine task. Reviewers of

work performed by an unfamiliar preparer were more effective when confronted with a routine task.[11]

Tan and Trotman (2003) highlighted that the hierarchical differences in review performance identified in previous studies may be contingent on preparer and reviewer characteristics. They investigated the relationship between hierarchical level, the preparers workpaper stylisation approach[12], and the reviewer's sensitivity to workpaper stylisation attempts.[13]

Using an approach similar to that of Ramsay (1994) and Harding and Trotman (1999), Tan and Trotman (2003) conducted an experiment in which managers and seniors reviewed hypothetical workpapers prepared by a preparer whose stylisation emphasis was on either documentation or conclusion errors. The workpapers were seeded with both conclusion and documentation errors with review performance measured as the documentation and conclusion errors

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[11] These results should be considered in light of the way in which preparer familiarity was manipulated. Familiarity was manipulated by providing an explanation of two fictitious auditors and, in one, noting that the auditor had worked with this preparer on three previous occasions and was found to be conscientious and co-operative. In the other, the preparer was described as an auditor from the same firm in another city. That is, the subjects did not actually know either of the two preparers.

[12] Tan and Trotman (2003) focus on one possible stylisation approach, namely; a focus on either documentation or conclusion errors so as to be consistent with the known preferences of the anticipated reviewer.

[13] Recall that stylisation is the process by which preparers tailor the workpapers in an attempt to convince the reviewer that their work is commendable, thereby enhancing their reputation (Rich *et al.* 1997a).

detected.[14] Reviewer stylisation sensitivity was measured as a ratio of effort allocated to the identification of documentation as opposed to conclusion errors in the face of the two scenarios with which preparer stylisation was manipulated.

Their results revealed that when preparer stylisation resulted in a focus on conclusion errors, seniors compensated by identifying more documentation errors if they were sensitive to stylisation attempts. Managers also compensated by identifying more documentation errors. However, as managers became more sensitive to stylisation attempts, the number of errors identified first increased then decreased. When preparer stylisation resulted in a focus on documentation errors, as sensitivity to stylisation increased, managers compensated by identifying more conclusion errors. The number of conclusion errors identified by seniors was not effected by stylisation sensitivity. The results, taken together, suggest that successful responses to stylisation not only depend on identifying the possibility of stylisation but also whether the reviewer has the necessary review template affording them the opportunity to respond.

### *2.3.3 Responses to Preparer Preferences and Competence*

A number of studies have examined the way in which reviewers respond to differences in preparer competence and whether reviewers are able to accurately and objectively assess a workpaper preparer's preferences and competence.

Bamber (1983) noted that auditors (reviewers) often form judgements based on the representations of subordinate staff, and suggested that they must

[14] Tan and Trotman (2003) note that the terms conclusion and documentation errors correspond to conceptual and mechanical errors, respectively.

incorporate the subordinate's reliability into their decision processes.[15] With this in mind, Bamber investigated whether managers are indeed sensitive to reductions in source reliability, and the extent to which managers discount the diagnosticity of the information relative to a normative model presented.

In order to examine the above issues, Bamber (1983) employed an internal control evaluation task, manipulating both the reliability and confidence level at which compliance tests were undertaken in a repeated measures experimental design. The results indicated that managers were sensitive to the reliability of the senior. Indeed, the managers discounted the diagnosticity of the information to a greater extent than that indicated by the model, suggesting the possibility that managers may under-utilise the information presented by the senior.[16] While these results indicated the possibility of over auditing and efficiency losses, they are consistent with the achievement of an important effectiveness gain attributed to the review process, namely controlling the work of the subordinate.

Kennedy and Peecher (1997) note that being able to accurately judge a subordinate's technical knowledge is important in ensuring that a sufficient level of workpaper review is performed. They investigate how accurately staff, seniors and managers assess their own technical audit knowledge as well as the technical knowledge of their subordinates. Drawing on the limited psychology literature,

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[15] While Bamber (1983) does not explicitly mention the review process, his hierarchical description of audit team decision making is consistent therewith. Implicit in his discussion is the need to consider the senior's / preparer's reliability when reviewing the workpapers.

[16] This overcompensation may have been the artefact of demand effects associated with the within-subjects design.

they proposed that auditors would be overconfident in their own technical knowledge and that this overconfidence would lead to overconfident assessments of their subordinate's knowledge. In addition, they argued that the overconfidence in a subordinate's knowledge would increase with the knowledge gap between the superior and subordinate.

Using a task that required superiors to assess the likelihood that their subordinate would correctly answer a series of multiple choice questions with four alternatives, Kennedy and Peecher (1997) report results supporting their expectation that auditors overestimate (are overconfident in) both their own and their subordinate's technical knowledge. This was the case, notwithstanding the fact that Kennedy and Peecher used authentic supervisor - subordinate relationships. Despite, or possible as a result of (see Tan and Jamal 2001), the fact that their research subjects had first hand experience of their subordinate's knowledge, they still failed to accurately assess that level of knowledge. Kennedy and Peecher's results also supported their belief that overconfidence in a subordinate's knowledge (ie. the difference between perceived and actual technical knowledge) increases with the gap between the superior and subordinate knowledge. Seniors exhibited greater overconfidence in staff auditors' knowledge (high knowledge gap) than managers exhibited in relation to seniors' knowledge (low knowledge gap).[17] Although not tested, these results suggest that a manager's

[17] Drawing on Bonner and Lewis (1990), Kennedy and Peecher (1997) note that auditors acquire general auditing knowledge through training, instruction and experience. With this in mind, they suggest that in terms of training, instruction and experience, the difference between managers and

assessment of a staff auditor's technical knowledge would be more optimistic (exhibit greater overconfidence) than a senior's assessment of the same staff auditor.

Tan and Jamal (2001) note that for the review process to achieve its quality control objective, managers must be able to objectively assess a subordinate's work. However, the fact that managers know the identity of the preparers and may have formed impressions based on the quality of prior work, they argue, might mean that assessments are not entirely objective. Drawing on the psychology literature, particularly that relating to the 'halo effect' and underlying psychological processes, they propose that impressions formed from prior involvement would overly influence the evaluation of the subordinate's present work submitted for review. They also argue that higher quality managers will be more objective than their average counterparts.

Managers were paired with two seniors with whom they had previously worked. Based on the audit firm's internal evaluation system, one senior was considered outstanding while the other was average (the reviewing manager was aware of these evaluations). In response to a case adapted from Hackenbrack and Nelson (1996), both seniors wrote a memo to their paired manager. With the knowledge of the preparer's identity, managers assessed the quality of the work and then, three weeks later, with the preparer's identity concealed, again assessed the quality of their work. Results supported their expectations that evaluations are not entirely objective. When the preparer's identities were known, the difference

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seniors is not as large as the difference between seniors and staff auditors. For this reason, they argue that the difference between the senior and staff auditor is the high knowledge gap.

in ratings between the outstanding and average senior was greater than was the case when preparer identities were unknown (noting that it was the same memos being evaluated). 'Outstanding' managers (based on the firm's internal evaluation scheme) were more objective than their 'average' colleagues.

Jamal and Tan (2001) investigate the ability of auditors to predict how other auditors will respond to audit issues that vary in terms of ambiguity. That is, predicting that choices made by other auditors. They note that this is important, amongst other things, to an understanding of workpaper stylisation and reviewer responses to that stylisation (see Rich *et al.* 1997a).

Fourteen audit managers were each matched with an outstanding senior and a mediocre senior that they had previously worked with. The 14 managers and 28 seniors predicted the choices that their paired seniors or manager, respectively, would make in relation to two audit issues. Predictions were made of individual choices and the number of seniors or managers, in aggregate, that would have made each of the available choices.

The two audit issues, which varied in terms of ambiguity, required subjects to decide whether a bad debt issue required footnote disclosure or an additional allowance, and which of two identified internal control weaknesses required immediate follow up as part of the interim audit.

Results revealed that auditors perform no better than chance when predicting the choices made by other auditors (Table 1, Jamal and Tan 2001). When predicting the choices made by other auditors, there were no differences in accuracy between managers, outstanding seniors, and mediocre seniors for either the high or low ambiguity tasks. When predicting the aggregate number of seniors

or managers making one choice as opposed to another, managers outperformed outstanding seniors who outperformed mediocre seniors on the high ambiguity task. There was no difference in accuracy for the low ambiguity task.

Kennedy and Peecher (1997), Tan and Jamal (2001), and Jamal and Tan (2001) all highlight the imprecision with which auditors perceive the knowledge, competence, and preferences of their colleagues. Given the fact that auditors are sensitive to the perceived competence (eg. Bamber 1983), the level and extent of workpaper review may not be appropriate. This, in turn, could result in reduced audit effectiveness and/or efficiency.

As noted in Chapter One, this dissertation further considers the issues associated with the ability of auditors to assess their colleague's competence and the implications of this for the review process.

## 2.4 Summary

Audit firms place significant reliance on the review process as a mechanism by which to control audit quality. It considerably adds to audit cost at a time when audit fees are under significant pressure. Only recently, however, has this area been the focus of significant research attention. Ongoing changes to the review process, a research domain that now extends beyond the quality control objective of this element of the audit, and an increasing interest in the review process amongst researchers, should ensure that this area continues to be given the attention required in order to provide guidance to audit firms in their attempts to implement the most effective and efficient review process structures.

The following chapter reports on a verbal protocol study aimed at understanding how auditors assess the competence of others within the context of the workpaper review environment. This knowledge is then applied in Study Two which is reported in Chapter Four.

# Chapter Three
## Study One - Protocol Analysis

### 3.1 Introduction

As noted in Chapter One and Chapter Two, despite its importance to the review process (and other elements of the audit), there is only a limited literature investigating the assessment of another auditor's competence. In addition, that literature only speculates on the underlying process by which these assessments are made. Therefore, while the literature reports that auditors are unable to accurately assess their colleague's competence, it is difficult to suggest and investigate potential interventions that may overcome, or at least minimise, this deficiency until more is known about the underlying process.

Previous studies in the psychology literature (Nickerson, Badderley, and Freeman 1987; Fussell and Krauss 1991; Fussell and Krauss 1992; Hinds 1999) and accounting literature (Kennedy and Peecher 1997; Tan and Jamal 2001) have suggested that when assessing the knowledge or performance of another person, assessors rely on an initial reference point or cue. Fussell and Krauss (1992) and Hinds (1999) have suggested that the anchoring and adjustment heuristic (Tversky and Kahneman 1974) may be involved.

With the exception of Tan and Jamal (2001) whose results suggest that reviewers might use their subordinate's prior performance as an initial reference point, the studies to date suggest that assessors rely on their own knowledge levels when assessing the knowledge levels of others. These suggestions, however, have not been the subject of empirical testing and have looked at knowledge in a

communication, rather than a competency, context. In addition, the findings in the psychology literature may not seamlessly transfer into an audit setting. Smith and Kida (1991) warn that when experienced auditors complete tasks with which they are familiar, strong biases identified in the psychology literature may be mitigated.

The present study uses concurrent verbal protocol methodology (protocol analysis) to examine the process by which auditors (seniors) assess the competence (operationalised as future performance) of other auditors. In doing so, it permits a more detailed interpretation of prior results and a more focussed search for ways to improve these important audit judgements.

The remainder of this chapter is organised as follows. Section two draws on the available literature to suggest possible assessment strategies that might be adopted in particular circumstances. This section states the hypotheses to be tested. Section three justifies the use of verbal protocol methodology and presents the specific methodological considerations in the study. Section four reports the results, while the implications, limitations, and future research opportunities are discussed in section five.

## 3.2 Potential Assessment Strategies and Hypotheses

While previous studies have suggested the process by which individuals (including auditors) assess the competence of others, they have not specifically examined the underlying process. The present study first sets out to investigate the processes involved when auditors assess the competence of other auditors. There are a number of studies in the psychology literature which provide guidance on strategies that may be employed when assessing the competence of other auditors. These findings, together with a limited number of accounting studies, provide a

foundation from which to propose a number of hypotheses which are investigated within the general aim of understanding the processes involved.

In forming a judgement about another person's knowledge, the psychology literature suggests that the assessor uses an anchoring and adjustment heuristic (Nickerson *et al.* 1987; Fussell and Krauss 1991; Fussell and Krauss 1992). "Individuals using the anchoring and adjustment heuristic focus on an initial value (ie. anchor) in the decision setting and, based on the available information, adjust from that value to arrive at a judgment" (Smith and Kida, 1991, p.473). The adjustment is usually insufficient (eg. Slovic and Lichtenstein 1971). The limited accounting literature has also explained results in terms of what might be termed an anchor within an anchoring and adjustment context (although the term anchoring and adjustment has not been explicitly used). Kennedy and Peecher (1997) report results consistent with the fact that audit supervisors rely on the confidence they have in their own technical knowledge to predict the technical knowledge of their subordinates. Tan and Jamal's (2001) results suggest that "...reviewers (specifically, average managers) may anchor their evaluations on knowledge of the preparers' prior performance"(p. 108).

Rather than use the term 'anchor', the present study uses the more general term of 'initial reference point'. This recognises that processes other than, or in addition to, anchoring and adjustment might underlie an auditor's assessment of another auditor's competence.

The speculation in the psychology and accounting literature as to the process underlying the assessment of another auditor's competence is reflected in the first two hypotheses.

Hypothesis 1: When assessing the competence of another auditor, auditors focus on an initial reference point from within the decision setting.

Hypothesis 2: When assessing the competence of another auditor, auditors adjust from an initial reference point from within the decision setting to arrive at a final judgement.

Given that any adjustments from the initial reference point are likely to be insufficient (eg. Slovic and Lichtenstein 1971) and the order effects in judgement and decision making (eg. Hogarth and Einhorn 1992), the informativeness and accuracy of the initial reference point is likely to have a significant influence on the accuracy of the final judgement. In this regard, Payne, Bettman, and Johnson (1993) note that "if one assumes an anchoring and adjustment process is being used by an individual, the key research question then becomes understanding the factors that affect the selection of an anchor"(p.260).

The following section examines the literature with a view to understanding the factors that might affect the selection of one reference point over another reference point.

### *3.2.1 Which Initial Reference Point?*

The psychology literature reports results consistent with the understanding that assessors use what they themselves know (which may or may not be accurate) as an initial reference point and then use perceived differences between themselves and the assessee in order to make an adjustment to what they believe they know.[18] For example, Nickerson *et al.* (1987) report that their subjects' estimates of the knowledge possessed by other people were not only influenced by

[18] As will be discussed shortly, the results from these studies are also consistent with the

what they actually knew, but also by their confidence in what they knew (whether such knowledge was correct or incorrect).

While Nickerson *et al.* (1987) emphasised that it was not possible to infer a causal relationship between the assessor's knowledge and the knowledge attributed to the assessee, they suggested that:

> We use our own knowledge as the basis for a default model of what other people know. We then use any awareness that our own knowledge is unusual in specific ways to modify our model of what the 'typical' other person knows. (p. 257)

When speculating on the process people use to estimate the knowledge of others, Fussell and Krauss (1992) suggested that the process may involve anchoring and adjustment "...in which subjects start with their own feeling of knowing and then revise up or down based on estimated recognizability"(p.389).

Nickerson *et al.* (1987) and Fussell and Krauss (1992) examined the assessment of knowledge which is only one component of competence (see Section 1.4 in Chapter One). Hinds (1999) investigated the prediction of performance (the outcome of competence) on a physical task. Her results suggest that when predicting the performance of novices, experts anchor on recollections of their own performance as a novice. However, the experts in her study were unable to accurately recall their performance as a novice, and this contributed to inaccurate predictions.

Nickerson *et al.* (1987) and Fussell and Krauss (1992) identify a relationship between the knowledge of the assessor and the knowledge they attributed to other people. However, the use of any reference point that is correlated with the assessors knowledge (be it that of an individual or otherwise) will provide results similar to those reported above. Furthermore, these studies do not incorporate

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employment of other initial reference points.

many of the complexities of social interaction present within the auditing environment.

Although the psychology literature suggests that individuals use their own knowledge levels as a reference point when assessing the knowledge of others, it is possible that auditors employ a modified strategy. Smith and Kida (1991) warn that when experienced auditors complete tasks with which they are familiar, strong biases identified in the psychology literature may be mitigated. After reviewing the heuristics and biases literature as it relates to auditing, they conclude that "...these findings suggest that through training and experience individuals develop or acquire 'specialised' heuristics that prove highly effective for tasks within their domain of expertise"(p.486). With regard to anchoring effects, Smith and Kida note that while anchoring is evident in auditor judgement, other factors also appear to influence the judgements that are made.

In an audit setting, Kennedy and Peecher (1997) report results consistent with the psychology literature in that auditors use their own knowledge as an initial reference point when assessing the knowledge of their colleagues. Tan and Jamal's (2001) results are consistent with the use of the subordinate's prior performance as an initial reference point. However, these studies, as is the case with those in the psychology literature, did not set out to, and therefore cannot, demonstrate the actual reference points employed.

Several factors are likely to influence the selection of an initial reference point. In a social setting, it is almost always necessary to infer individual characteristics (especially knowledge) from presently observable characteristics or

those characteristics observed in the past (eg. Clark and Carlson 1981).[19] When inferring individual characteristics, person perception and social categorisation play an important role. When forming opinions about individuals the assessor finds a social category that is most similar to the perceived characteristics of the individual and then describes the individual by comparison to the characteristics which define category membership. This process allows individuals to manage their perception and interaction with the social world. Snyder and Uranowitz (1978) note that:

> To the extent that we attribute stable traits and enduring dispositions to other people, we may fee (sic) better able to understand their actions and to predict their future behavior. Moreover, we may use these beliefs to guide our behavioral interactions with them. (p.941)

The typical characteristics attributed to individuals placed within a particular social category guide (in a biased manner) the recall of past interactions, the interpretation of present interactions, and expectations for future interactions (eg. Johnson and Judd 1983; Snyder and Uranowitz 1978; Martell and Willis 1993).

Each social category will contain prototypes representing typical characteristics of individuals within that social group. Individuals categorised to a particular social category will be assumed, more or less, to possess these typical characteristics (Feldman 1981; Fussell and Krauss 1992). Darley and Fazio (1980) describe this attribution as the first stage of their 'social interaction sequence'. "Either because of past observations of the other or because of the categories into which he or she has encoded the other, a perceiver develops a set of expectations

[19] For example, consider the type of accounting research conversation you would have with a colleague as compared to a first year accounting student. In this situation, it is necessary to infer, amongst other things, the other person's knowledge of research issues. Similar situations are repeated many times every day.

about a target person" (p.868). They go on to note that "...initial expectations about the behavior of an individual are drawn from evidence about the class of individuals to which that target individual is assessed to belong" (p.870).

The complexity of an individual's social categories are, in part, a function of the individual's past experience. With more experiences, the individual is able to form richer and more detailed social categories from which to anticipate the behaviour of individuals placed within that category. Lower level (subordinate categories are more detailed representations of higher level (superordinate) categories, such that members of the lower level category will always be members of the immediate upper level category, but not vice versa.[20]

The contents of an individual's social categories are, however, likely to be a biased representation of past experiences. The impression formation literature indicates that for expectations relating to ability, positive behaviours are more salient (Skowronski and Carlston 1987). In an audit setting, Anderson and Marchant (1989) demonstrate disproportionate weighting of positive behaviours when assessing the competence of audit client personnel. It is likely, therefore, that any perception of competence, be it at the aggregate or individual level, is likely to exhibit overconfidence.

The categorisation of an individual into one category as opposed to another depends on category salience which, in turn, is a function of the fit between the category specifications and the characteristics of the person to be classified (eg. Oakes, Turner, and Haslam 1991; Blanz and Aufderheide 1999). In this regard,

[20] While it is recognised that individuals structure categories in a hierarchical fashion, the specifics of the structuring are not clear. See Eysenck and Keane (1996) for a discussion of the competing views.

Oakes (1987) distinguishes between comparative fit and normative fit. Comparative fit is the extent to which the potential categorisation covaries with other arbitrary characteristics.[21] Normative fit is the extent to which individual characteristics of the person to be classified match the stored typical characteristics of the category.

In situations where little, if anything, is known about the individual, and the knowledge being assessed is that of a general nature, it is likely that the individual will be placed into a very general social category (ie. superordinate category). The lack of knowledge about the other person will preclude a more specific categorisation into lower level categories. The assessor is likely to attribute the individual with the competence perceived to be typical of that general social category and then adjust for any perceived differences that would distinguish the individual from the typical group member (if adjustment was considered necessary).

To illustrate, consider the situation where a person is asked to predict whether an individual standing on Wall Street in New York would be able to give directions to the Empire State Building. If nothing were known about the individual, they would be likely to be placed in the broad social category of 'NewYorker'. Typical members of this social category would know how to get to the Empire State Building and, therefore, in the absence of any reason to adjust (eg. perceived intoxication), it would be argued that the individual could correctly

[21] Blanz and Aufderheide (1999) provide the example of categorisation on the basis of gender. This categorisation is more likely to proceed if all women are sitting on one side of the room and all men are sitting on the other side. In this situation, the comparative fit is strong. If males and females are not seated in any particular pattern, other arbitrary covariations might be more salient.

give directions to the building. If more were known about the individual (eg. it was noted that they had a New York guide book) this would permit classification into a different social category (eg. visitors to New York), with different implications for whether or not they would be able to give directions to the Empire State Building.

When the individual is placed within the social category which the assessor also perceives themselves to be a member of, there will be a relationship between the assessor's knowledge and that attributed to the assessee. It is, therefore, not surprising that research in psychology reports results that the assessment of another persons knowledge is biased in the direction of the assessor's knowledge. Nickerson *et al.* (1987) asked college students to predict what percentage of randomly selected college students would be able to answer particular questions. Fussell and Krauss (1992) asked undergraduate students to rate the identifiability of 15 people to other undergraduate students. Therefore, not only were assessments made of people within the assessor's own social group, but the fact that they were assessing average knowledge across a group of people precluded the specific categorisation of individuals.

In an audit setting more will be known about the individual being assessed. At the very least, the hierarchical level (eg. staff, senior, etc.) will be known. In many situations it is likely that the assessor will know even more about the person being assessed through an ongoing work relationship. Audit teams often work together on a number of engagements affording the opportunity to develop an understanding of a colleague's competence. The fact that the assessor is likely to have some knowledge of the person being assessed raises the question of whether auditors more precisely categorise the person such that the typical category

knowledge is different from the assessor's knowledge; that is, cognitively place the individual into different social categories.

Given that the level and depth of social categories is a function of past experiences, audit experience should permit auditors to develop detailed audit specific social categories. Each of these detailed social categories will contain the typical levels of competence which will be attributed to the individuals placed within that category. Auditors might use very specific social categories, so specific in fact, that there would be some social categories developed for a single individual. This might be the case when an auditor has had extensive experience with and exposure to a staff auditor's competency.[22] Lower level categories might be inherited rather than internally generated. Audit firms might, for example, classify their auditors into competency related categories and make these classifications available to assessors. Tan and Jamal (2001) find that managers are sensitive to these classifications when evaluating the work of a subordinate.

Results in the accounting literature are consistent with this understanding. Kennedy and Peecher (1997) suggest that when predicting the technical knowledge of a subordinate, superiors use their confidence in their own technical knowledge (ie. what they believe they know) as the initial reference point. However, this conclusion was based on identified correlations between the confidence superiors had in their own knowledge and their prediction of the

[22] Unstructured interviews with three seniors at the planning stage of this study revealed that auditors might develop lower level social categories. Two of the three seniors indicated that when assessing the competence of a staff auditor with whom they have previously worked they would have some idea of their general competence which would then be used to assess their competence in the specific area.

subordinate's knowledge. To the extent that a superior's confidence in their own knowledge is also correlated with the reference points associated with other social categories, their results are also consistent with the understanding outlined in the preceding paragraphs. In addition, the fact that participants were asked to first answer each of the technical questions and then report their confidence may have artificially increased the salience of the assessor's own knowledge as a potential reference point.

The relationship between the assessor and assessee (or more specifically, how much the assessor knows about the assessee) is argued to be a defining factor in determining the social category into which the assessee is placed. This, in turn, establishes which typical characteristics the assessee will initially be attributed with. The following sections consider four relationships between the senior (assessor) and the person they are assessing; the assessee is a peer of the assessor (ie. another senior) but has not previously worked with the assessor, the assessee is a peer of the assessor and has previously worked with the assessor, the assessee is a subordinate (ie. staff auditor) of the assessor but has not previously worked with the assessor and finally, the assessee is a subordinate of the assessor and has previously worked with the assessor.

### *3.2.2 Assessing the Competence of a Peer*

When assessing the future performance of another auditor, the assessee will initially be placed within the broad social category corresponding to their hierarchical level. Given that the assessor is also a senior, they will perceive themselves to be a member of this same broad social category. In a review of the literature, Leyens and Codel (1988) note that individuals generally perceive others as belonging to the same social category as themselves, but do not see themselves

as being similar to others. Individuals have a much more elaborate understanding of their own social group's typical characteristics and the way in which they are different from other members of this group. For example, Quattrone and Jones (1980) argue that assessors who are part of the target group (in-group) will perceive greater variability within the group's population than those who are outside the group (out-group).[23] This suggests that seniors develop very detailed and rich social categories that reflect perceived variability and the fact that they are likely to view themselves as being dissimilar to other seniors.

In a situation where little is known about the person being assessed (ie. the assessor has not previously worked with the assessee), it will not be possible to place the individual into a more detailed lower level social category. Therefore, the senior being assessed will be attributed with the competence believed to be typical of seniors in general. Any adjustments will be made from this initial reference point. This leads to the following hypothesis.

> Hypothesis 3: When assessing the competence of a peer with whom the assessor <u>has not</u> previously worked, seniors use their perception of the competence of seniors in general as the initial reference point.

[23] In addition to wanting to establish individuality by identifying differences within the in-group, Quattrone and Jones (1980) note that individuals generally interact more with other members of the group to which they belong than other individuals. In doing so, they have a greater opportunity to experience a complete range of personal attributes, thereby contributing to perceptions of variability. Furthermore, such experiences are not constrained in the same way that out-group encounters often are. The constraints associated with out-group encounters are argued to amplify the perceived similarity between out-group members, particularly when the impact of situational constraints are not fully understood.

As discussed above, often more will be known of the senior being assessed. Often seniors work together on a client engagement. In other situations, seniors may have been employed at the same time and been promoted at similar times. Irrespective of the circumstances surrounding the acquisition of knowledge about the person being assessed, such experiences allow for the development of more detailed lower level social categories and the classification of individuals into those categories. If enough was known about the senior being assessed, the assessor may have developed a social category so specific that it is characterised by the attributes (eg. competence) of the individual assessee. It will, however, still be necessary to infer the senior's competence as the assessor may not have previously experienced their competence in the specific area. Even if they have previously experienced their competence in the area, other factors such as increased or diminished knowledge may require inferences to be made. This leads to the following hypothesis.

> Hypothesis 4: When assessing the competence of a peer with whom the assessor has previously worked, seniors use their perception of the specific peer's competence as the initial reference point.

### *3.2.3 Assessing the Competence of a Subordinate*

As noted above, the hierarchical structure of audit firms encourages the formation of broad social categories based on hierarchical levels. Therefore, when assessing the knowledge of a subordinate staff auditor, the individual will be placed into a broad social category associated with their hierarchical level. In situations where little else is known about the person being assessed (ie. the senior has not previously worked with the staff auditor), further sub-categorisation is

unlikely. The staff auditor will be attributed with the competence perceived to be typical of staff auditors in general. That is, assessors will use the perceived typical competence of members of that social group as the initial reference point, and any adjustments will be made from this initial reference point. This leads to the following hypothesis.

> Hypothesis 5: When assessing the competence of a staff auditor with whom the senior has not previously worked, seniors use their perception of the typical competence of staff auditors in general as the initial reference point.

As mentioned above, greater knowledge of the person being assessed permits them to be more precisely placed within a lower level (subordinate) social category. In an audit setting, an ongoing work relationship will permit the assessor to develop an understanding of the staff auditor being assessed. This will include a general understanding of their skills and ability. As was the case with seniors, it will be necessary to infer the staff auditor's competence since it is possible that the assessor does not have first-hand knowledge of the specific competency being assessed. The assessor will, therefore, use the perceived typical competence of the lower level social group within which the staff auditor is placed as the initial reference point. The staff auditor will be attributed with the competence perceived to be typical of the lower level social category into which they are placed. If the experiences are extensive then, like seniors, there will be an individual category containing the competencies of only the staff auditor whose competency is being assessed. This leads to the final hypothesis.

> Hypothesis 6: When assessing the competence of a staff auditor with whom the senior has previously worked, seniors use their perception of the specific staff auditor's competence as an initial reference point.

The suggested associations between assessor and assessee relationship and the initial reference point employed are summarised in Table 1.

**Table 1**
***Suggested Associations Between Assessor-Assessee Relationship and Initial Reference Point Employed***

| Hypothesis | Relationship | Initial Reference Point |
|---|---|---|
| 3 | Assessment of a peer with whom the assessor has not previously worked. | Perceived general competence of the broad (superordinate) senior auditor social category. |
| 4 | Assessment of a peer with whom the assessor has previously worked | Perceived general competence of the specific peer being assessed. |
| 5 | Assessment of a subordinate with whom the assessor has not previously worked | Perceived general competence of the broad (superordinate) staff auditor social category. |
| 6 | Assessment of a subordinate with whom the assessor has previously worked | Perceived general competence of the specific subordinate being assessed. |

The following section outlines the methodology used to investigate each of the above hypotheses.

## 3.3 METHODOLOGY

As was previously noted, the hypotheses were examined with the use of concurrent verbal protocol methodology (protocol analysis).[24] The merits of protocol analysis in the conduct of research examining process models of decision behaviour have long been recognised (eg. Payne, Braunstein, and Carroll 1978).

[24] Concurrent verbal protocols can be distinguished from retrospective verbal protocols in that the former involves verbalisation during the completion of the task while the latter involves verbalisation after the task has been completed. Retrospective protocols generally do not provide data that is considered reliable (eg. Nisbett and Wilson 1977).

Furthermore, Larcker and Lessig (1983) note that "...if the research goal is understanding a subject's cognitive processing, a process tracing procedure seems to be required"(p.74). While protocol analysis does not provide as complete a trace of decision processes as other techniques such as computer search, when information use and long term memory retrieval are of primary interest, protocol analysis is preferred to computer search (Payne *et al.* 1978; Biggs, Rosman, and Sergenian 1993). Indeed, in tasks where information retrieved from long term memory is argued to define the judgements ultimately made (as is the case in the present study), computer search is not a viable option as the information required to make a decision cannot be incorporated into the case materials.

Despite the advantages of protocol methodology, it has not been widely used in the accounting literature. Appendix One summarises the accounting and auditing studies that have employed protocol methodology.

Consistent with recent research employing protocol methodology, the present study investigates judgement processes within the context of a developing theory of judgement and decision making. Klersey and Mock (1989) note that "an important part of protocol study, when possible, should be the testing and perhaps development of an appropriate theory"(p. 137).

### *3.3.1 General Protocol Issues*

As is the case with all research methodologies, protocol analysis suffers from a number of limitations.[25] Of particular concern to the present study are the arguments that the requirement to 'think aloud' changes the cognitive processes

[25] For a concise discussion of the concerns often raised in relation to protocol methodology, see Biggs and Mock (1983 pp. 236-8) and Trotman (1996, p.56). More detailed discussion of the issues can be found in Russo, Johnson, and Stephens (1989) or Ericsson and Simon (1993).

normally employed, that verbal protocols do not provide a complete trace of the judgement process, and the subjectivity in coding limits the reliability of protocol data.[26]

Ericsson and Simon (1993) argue for the validity of verbal reports that place no additional or very minimal additional processing demands upon the decision maker. These reports are termed Type 1 and Type 2 verbalisations. Type 1 verbalisations do not require any intermediate processing between the time the information is attended to and the act of verbalisation. In this situation, the information attended to is already recorded as verbal code.

Often, however, the information must first be translated into verbal code. These verbalisations are referred to as Type 2 verbalisations. Research suggests that the requirement to provide Type 2 verbalisations increases the time needed to complete the task. However, from a review of the literature, Ericsson and Simon (1993) conclude that Type 2 (and Type 1) verbalisations do not alter the cognitive processes that are normally used. Type 3 verbalisations, on the other hand, require additional intermediate processing and attention to information that would not normally be needed in the absence of the verbalisation request. Ericsson and Simon note that Type 3 verbalisations do not provide valid and reliable data. They arise for example, when individuals are asked to verbalise only a subset of their thoughts, or are required to justify their thought processes. In order to generate valid protocol data, Type 1 and Type 2 verbalisations are collected by instructing individuals to *'think aloud'* while completing the task. Instructions usually contain a specific statement requesting the participant not to justify any aspect of their

[26] Measures employed in order to increase the reliability of the data are discussed in a later section.

judgement processes.

In relation to the completeness of verbal protocols, it is likely that verbal protocols will not capture an individual's cognitive processes in their entirety (Payne *et al.* 1978). In particular, automatic, well practised or intuitive tasks are unlikely to be heeded in short term memory, and therefore not verbalised. While protocols may be incomplete, that which is verbalised is usually a valid representation of the underlying judgement processes.

### *3.3.2 The Operationalisation of Competence*

In Chapter One, a competence-performance framework was outlined (see Section 1.4). Recall that competence was defined as the capacity to successfully perform a task. This, in turn, is a function of knowledge, ability, motivation, and the decision making environment.

In the present study, the assessment of competence was operationalised by presenting particular audit circumstances that might be encountered during the conduct of the audit. These are circumstances that warrant the attention of the reviewing senior (for tasks completed by staff auditors) or require revisions in the audit plan (for tasks completed by senior auditors), but are not explicitly noted in the audit program. In this environment, the auditor's competence will be reflected in their future performance. That is, whether they would bring this matter to the attention of the reviewing senior (for tasks completed by staff auditors) or revise the audit program (for tasks completed by senior auditors). Assessments of future performance were collected by asking the assessor to estimate the likelihood that the auditor being assessed would bring the matter to the attention of the reviewing senior or modify the audit program (depending on who was being assessed). The cases that were employed are discussed in Section 3.3.6.

### *3.3.3 Subjects*

Participants were directly contacted in order to elicit their participation in the study. Those agreeing to participate were provided with a $50 (Australian Dollars) gift voucher in order to compensate them for the time forgone.[27] Verbal protocols were collected individually and, in general, the time taken for the entire exercise was one hour for each subject.

In total 20 seniors from three then 'big-five' and one 'second-tier' firm participated in the study. Twelve of the subjects were drawn from one of the 'big-five' firms. The subjects were drawn from their Australian offices in Sydney and Melbourne.

All participants indicated that they were a senior (although this may not necessarily be the title used by the firms involved). The mean experience of the subjects was 33.4 months (range: 14 to 48 months).

A criticism often levelled at protocol studies is the small sample size (sometimes as little as two or three subjects) and in particular, the ability to generalise from the results. In this study, the number of participants and the number of protocols generated therefrom compares favourably with other protocol studies in the accounting literature.

### *3.3.4 Research Design*

The hypotheses were examined with a 2 (familiarity) by 2 (hierarchical relationship) design. The two familiarity treatments were familiar with the assessee and unfamiliar with the assessee. The two hierarchical relationship treatments were a peer of the assessee and a subordinate of the assessee. Both

[27] In general, participation took place outside of work hours.

factors were manipulated within subjects.

A within subjects manipulation of both factors was chosen for two reasons; the efficient use of subjects, and the brief nature of each protocol. Since each protocol was estimated to be short (less than ten minutes), providing four protocols was not a demanding requirement. While a within subjects design represents a potential threat to the validity of the results, the ability to minimise these threats, together with the efficiency of the design, meant that this was considered the superior choice.

### *3.3.5 Research Materials*

The auditors who were the focus of assessment varied in terms of their familiarity with the assessor and their hierarchical level. The relationship that each of these auditors had with the assessor was as follows;

i. A peer with whom the assessor has worked with in the last six months.
ii. A peer with whom the assessor has not previously worked.
iii. A staff auditor with whom the assessor has worked with in the last six months.
iv. A staff auditor with whom the assessor has not worked.

The two situations where the assessor needed to be familiar with the work of the assessee raised two issues that needed consideration; the nature of the familiarity / knowledge of the assessee and the confidentiality issues associated with assessing a colleague's competence.

In the situations where it was necessary for the assessor to have previously worked with the auditor being assessed, it was the extent of prior work experience that was important. It was important that the assessor has had the opportunity to experience first hand some aspect of the assessee's competence and motivation. It is the knowledge of the assessee's competence and motivation gained from this

experience that is argued to allow for categorisation into a subordinate social category and the use of a more specific initial reference point. A period of six months was chosen in order to ensure that the prior association with the assessee would be sufficiently salient. While an association in the more distant past may still allow for categorisation into a subordinate social category, this is considered unlikely given the limited memory trace for these experiences. A period of six months, therefore, clearly distinguishes this situation from that where there has been no prior involvement.

Given the sensitivity of issues surrounding assessment of a colleague's competence, the issue of how to select auditors to be assessed was difficult. The fact that people other than the subject might be aware of the individuals being assessed had the potential to introduce systematic bias into the assessment strategies used. In this study, each subject individually selected two colleagues with whom they had previously worked. In addition, several elements of the research design discussed below gave the subject confidence that the author (or any other person) would not, and indeed could not, match the assessments made with the individual being assessed.

There were two possible ways to operationalise the within subjects manipulation. First, subjects could predict the future performance of both staff auditors using one case scenario (reflecting the work normally expected of a staff auditor) and predict the future performance of both senior auditors using a different case scenario (reflecting the work normally expected of a senior auditor).[28] Alternatively, four different assessments could be made. The second

[28] Given the fact that subjects assessed the future performance of both staff and senior auditors, the

alternative was preferred for several reasons. Concurrent verbal protocols are likely to become less comprehensive as the task becomes more practised (Ericsson and Simon 1993). There was, therefore, the risk that if the same assessment was made twice, the second protocol would be less comprehensive. In addition, since the strategy employed in the previous task would be more salient if the same task was employed, different tasks reduce the risk of carry over effects.

Participants were provided with general descriptions of two auditors; one staff auditor and one senior. For each of the two descriptions, they were asked to select a colleague that matched the description and write this auditor's *first name only* onto a 'staff card' that could be referred to while the materials were being completed. A description of two other 'fictitious' auditors were also provided and served as the staff and senior auditors with whom the assessor had not previously worked. These descriptions were deliberately vague in order to replicate the situation where little is known about the auditor being assessed. The names given to these 'fictitious' auditors (Lee and Chris) were selected so as to be gender neutral.

Since the author only knew the first name of the person being assessed, and the fact that the subject's name did not appear on any of the materials, the subjects could have confidence that their assessments would not be made known to the individual they chose to assess, or indeed, any other person.

The description of each of the four auditors that were used in this study are provided in Table 2.

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same case scenario for all four assessments would not be possible. If one case scenario was used, it would be too difficult for the staff auditor and/or too easy for the senior auditor.

**Table 2**

***Description of the Four Auditors to be Assessed***

| Auditor to be Assessed | Description[†] |
|---|---|
| i. a staff auditor with whom the assessor has previously worked within the last six months | A staff auditor with whom you have worked with in the last six months (with approximately 1 year of audit experience). The circumstances surrounding your prior work involvement are not important, except for the fact that it is necessary for you to be familiar with some aspect of their prior audit work. |
| ii. a staff auditor with whom the assessor has not previously worked | Lee is a staff auditor with 1 year of audit experience. Lee transferred to your group from interstate. |
| iii. a senior auditor with whom the assessor has previously worked within the last six months | A senior auditor with whom you have worked with in the last six months (with approximately 4 years of audit experience). The circumstances surrounding your prior work involvement are not important, except for the fact that it is necessary for you to be familiar with some aspect of their prior audit work. |
| iv. a senior auditor with whom the assessor has not previously worked. | Chris is a senior auditor with 4 years of audit experience (1 year as a senior). Chris transferred to your group from interstate. |

[†]In cases (i) and (iii) the subject individually selected the auditor whose future performance was predicted.

The order in which the assessments were made was randomised. That is, the four assessments (representing the two hierarchical levels and the two relationships) were randomly ordered. Furthermore, in order to rule out the competing hypothesis that the results were driven by different tasks, the two staff auditor and two senior auditor cases were first counterbalanced across the two staff and senior assessments respectively.[29]

In order to confirm that the experimental manipulations were successful, each subject completed an exit questionnaire. The exit questionnaire collected details of

[29] The situations discussed in the two cases may differ in terms of their perceived likelihood of occurrence as well as importance to the overall audit. While there is nothing to suggest that this, or other case differences, will influence the assessment strategy adopted, it was still necessary to build into the design a means of controlling for this potential effect.

the relationship between the assessor and assessee, the subject's position within the firm, and their auditing experience.

### *3.3.6 Case Development*

The four cases employed in this study were developed with three goals in mind. First, the cases had to present circumstances that would require the auditor performing the work to act upon, but be of a type not normally explicitly detailed in the audit program. That is, the circumstances should not be identified by blindly following an audit program or check list. However, the circumstances in each case had to be such that identifying the irregularity would be a challenging, but not unreasonable, expectation.[30] The tasks also had to be such that different levels of knowledge and ability would be expected to result in different levels of performance, otherwise assessments of competence would be of little importance. That is, the cases should not be 'novice tasks' as referred to by Libby and Luft (1993). Second, the cases had to refer to work normally performed by an auditor at the same hierarchical level as the auditor being assessed. Third, the four cases had to be sufficiently similar in order to minimise the confounding effect of task specific circumstances, but different enough to minimise carry over effects.

The four cases each outline certain circumstances that an auditor should be vigilant for when conducting the audit. The assessor was asked to indicate their level of confidence in whether the auditor would identify and appropriately act on the audit issue outlined in each case. Ericsson and Simon (1993) note that the task should be clear and unambiguous. For this reason, specific circumstances were

[30] These circumstances are characterised by unstructured requirements and impoverished learning environments which, in turn, mean that ability, in addition to knowledge, should be considered when assessing future performance (see Libby and Tan 1994).

noted so as to clearly establish the difficulty of issues under consideration. Given the focus of the study and the way in which competence was operationalised, the cases were written so as to be concerned with possible future events.

The senior cases relate to planning issues. The two staff auditor cases relate to valuation issues during the attendance at a stocktake and identifying related party transactions while conducting cut-off tests. Subjects were asked to assess their confidence in the auditor identifying and appropriately acting on the audit issue discussed in each case. Subjects responded on an 11 point scale anchored by '100% confident' and '0% confident'.

The first staff auditor case (Case 1) involved their attendance at the physical inventory count. The senior was asked to rate their confidence that if the staff auditor being evaluated saw large amounts of inventory in difficult to reach locations, they would identify this as being an issue and bring it to the attention of the reviewing senior.

The second staff auditor case (Case 2) involved their performance of cut-off tests. The senior was asked to rate their confidence that if the staff auditor tested transactions that involved a related party transaction, the auditor would identify this as being an issue and bring it to the attention of the senior.

The first senior case (Case 3) relates to planning issues following the identification of an unusual fluctuation in sales returns and allowances. This fluctuation has implications for many accounts including the valuation and existence of debtors, the valuation of inventory, and the measurement of warranty liabilities. The senior is asked to indicate their confidence that the person being assessed would identify the implications for the related accounts.

The second senior case (Case 4) was concerned with planning issues

surrounding the possibility that debtors were understated. The senior is asked to indicate their confidence that the person being assessed would identify the need for additional tracing, not vouching.

The four cases were reviewed by three academic colleagues with a view to ensuring that they were clear and unambiguous. Following their review, minor modifications were made. The entire research instrument, including the four cases, were subsequently pilot tested using senior auditors.

The four cases are presented in Exhibits 2 to 5 respectively.[31]

[31] The number of each case, together with the auditor being assessed (A,B,C,D) were changed depending on the position of each case in the research instrument and the auditor being assessed.

**Exhibit 2**
*Case 1 Stocktakes*

# Case 1
# Stocktakes

When observing the physical inventory count, the auditors observing the client's count need to be alert for the existence of events or circumstances that should be documented and bought to the reviewing senior's attention. These circumstances are not usually specified, or are only generally discussed in the audit program that is followed by audit staff. An example would be circumstances that might suggest valuation concerns such as inventory in difficult to reach locations within the warehouse.

Refer to the person whose name is recorded next to Auditor A on the yellow staff card. If Auditor A was observing the stocktake and saw inventory in difficult to reach locations, what level of confidence would you have that this auditor would independently (ie. without specific instruction) identify this as an issue and bring the matter to the reviewing senior's attention?

Please indicate your confidence by circling the appropriate number on the following scale;

| 100% Confident | | | | | | | | | | 0% Confident |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Please remember to 'think aloud'.

**Exhibit 3**
*Case 2 Cut-off Testing*

# Case 2
# Cut-off Testing

When performing cut-off tests, the auditor performing the work should be alert for the existence of events or circumstances that should be documented and bought to the reviewing senior's attention. These circumstances are not usually specified, or are only generally discussed, in the audit program that is followed by audit staff. An example would be transactions involving a previously identified related party.

Refer to the person whose name is recorded next to Auditor B on the yellow staff card. If Auditor B was performing the cut off tests and tested transactions which involved a related party transaction, what level of confidence would you have that this auditor would independently (ie. without specific instruction) identify and bring to the reviewing senior's attention the related party transaction?

Please indicate your confidence by circling the appropriate number on the following scale;

| 100% Confident | | | | | | | | | | 0% Confident |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Please remember to 'think aloud'.

**Exhibit 4**
*Case 3 Audit Planning*

# Case 3
# Audit Planning

When conducting analytical review, unusual fluctuations often have implications for accounts other than that for which the fluctuation was identified. One example would be the identification of excessive sales returns and allowances. Such a fluctuation has implications for the valuation of inventory and measurement of warranty liabilities.

Refer to the person whose name is recorded next to Auditor C on the yellow staff card. If Auditor C was preparing the audit plan, what level of confidence would you have that this auditor would identify the implications for the related accounts.

Please indicate your confidence by circling the appropriate number on the following scale;

| 100% Confident | | | | | | | | | | 0% Confident |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Please remember to 'think aloud'.

**Exhibit 5**
*Case 4 Audit Planning*

# Case 4
# Audit Planning

When amending the audit program following concerns arising from analytical review, the senior must ensure that the additional testing is consistent with the audit objective being pursued. One example would relate to the possibility of debtors being understated. In such a situation, it would be appropriate to, for example, trace sales invoices to debtors listing (additional tracing) rather than increasing the debtors circularisation sample size (additional vouching).

Refer to the person whose name is recorded next to Auditor D on the yellow staff card. If Auditor D was amending the audit plan, what level of confidence would you have that this auditor would identify the need for additional tracing, not vouching?

Please indicate your confidence by circling the appropriate number on the following scale;

| 100% Confident | | | | | | | | | | 0% Confident |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Please remember to 'think aloud'.

### *3.3.7 Protocol Procedures and General Administration Issues*

The procedures recommended by Ericsson and Simon (1993) to collect verbal protocol data were closely followed in the present study. This includes the use of warm-up (practice) exercises so that subjects can become familiar with the requirement to 'think aloud' while making their judgements.[32]

Ericsson and Simon (1993) note that the role of the warm-up exercise is to allow subjects to become familiar with the requirement to think aloud. These exercises should begin with a task for which it is easy to think aloud, thereafter moving towards a task that elicits similar cognitive demands to the main experimental task. In order to ensure no carry over effects, the warm-up exercises should be sufficiently different than the experimental task. The warm-up exercises should also permit the researcher to identify any misunderstanding of the instruction to think aloud (eg. providing justifications). Should the researcher identify that the participant is experiencing difficulties with the requirement to think aloud, additional warm-up exercises can be administered prior to the main experiment.

Previous protocol studies in the accounting literature have often been silent on the issue of warm-up or practice exercises. Boritz *et al.* (1987) provide the most detail. They noted that the purpose of their practice exercise was to not only familiarise the participants with the requirement to think aloud, but also to

[32] While subjects may be familiar with the need to verbalise aspects of their judgement process in social communication (eg. explaining and justifying judgements), they are unlikely to be familiar with the need to think aloud without social interaction. Therefore, the practice exercise must elicit Type 1 or Type 2 verbalisations.

demonstrate the type of decisions they would be making. Bedard and Biggs (1991) employed a simple analytical procedures task with three cues. Biggs *et al.* (1988) described their practice task as a "...simple problem from an intermediate accounting textbook"(p.150). Biggs and Mock (1983, p.239) and Biggs *et al.* (1987, p.6) both referred to a "...short accounting problem". Mock *et al.* (1999) used a task that required participants to "...evaluate the propriety of classifications of leased machinery and land acquisition costs (as described in a junior's memorandum) and determine the need for any audit adjustments or reclassifications" (p.12). No other study referred to in Appendix One provides details of the practice task used.

In all of the above studies, the major source of information necessary to complete the task was contained in the research materials.[33] Therefore, the above mentioned practice exercises were appropriate for those studies. In the present study, the primary source of information is retrieved from memory. The practice exercise, therefore, had to be one where information is primarily retrieved from memory, rather than from the case materials.

To ensure that subjects were at ease with the protocol method, the practice exercise consisted of two tasks. The first task was one in which the requirement to think aloud was comparatively easy. It involved determining the answer (without the aid of a calculator) when two numbers were multiplied together. Tasks of this type are argued to be very suitable in helping subjects become familiar with the requirement to think aloud (Ericsson and Simon 1993). The second warm-up exercise required the subjects to predict the outcome of the next Australian federal

[33] The material still had to be integrated and interpreted.

election assuming that it would be held two months into the future.[34] As is the case in the main experimental task, a prediction needs to be made, and the mode of response was also the same. Given that this is a task for which the temptation to provide justifications would be similar to that in the main experimental task, it allowed the identification of any misunderstanding of the requirement to 'think aloud'.[35]

The only interaction between the author and the subject was a prompt when the subject fell silent for a period of 10 to 15 seconds.[36] The author was also prepared to note any reference to an individual other than the participant or the assessee. Should the assessor chose to use the competence of an individual other than themselves or the assessee as an initial reference point, it would have been necessary to identify the relationship of this person to the assessor and assessee.

Once the four cases were completed, a general questionnaire was administered to elicit the subject's experience, hierarchical position within the firm, and the nature of any prior work relationships with the auditors that they assessed. The questionnaire was completed with only the 'staff card' to refer to. That is, the criteria for selecting the auditors to assess was not available. This information served to confirm the appropriateness of the auditors selected to be

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[34] This study was administered approximately six months prior to a federal election.

[35] One subject provided an explanation for their decision process in the first warm-up exercise. The author subsequently explained that all that was required was to think aloud and no explanation or justification was required. Another similar mathematical exercise was completed which indicated that the instructions were understood. The second warm-up exercise was completed and indicated an understanding of the instructions.

[36] Ericsson and Simon (1993) note that "normally an experimenter would wait 10-15 seconds to

assessed by the subjects.

In order to further reduce the potential bias associated with subjects being of the belief that their assessments would be made known to those they were assessing, the confidentiality of all responses was guaranteed. To reinforce this guarantee, the materials only referred to 'Auditor A', 'Auditor B', 'Auditor C', and 'Auditor D'. In addition, a guarantee was given that any reference on the protocol tapes to the individual being assessed would be replaced with 'Auditor A', 'Auditor B', 'Auditor C' or 'Auditor D' when the protocols were being transcribed, after which time the 'staff card' would be destroyed.[37] Finally, each participant was identified by a code number (not their name) on both the written materials and protocol tapes.

The research materials were administered separately for each subject in a seminar room free from noise and distraction. Each session began with the researcher describing in general terms the nature of the study and providing an assurance that the responses were anonymous. The verbal protocols were recorded with unobtrusive recording equipment. At the completion of the task, subjects were debriefed and any questions that they had about the study were answered.[38]

The complete research instrument is reproduced in Appendix Two.

## 3.4 RESULTS

The recording equipment failed for one of the protocols provided by one of the subjects. This meant that only three protocols for this subject could be

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remind a subject to 'keep talking' in order to minimise the risk of disruption"(p.xxviii)

[37] This procedure was carried out.

[38] A summary of the results was subsequently sent to all participants.

included in the analysis. In total there were 79 protocols included in the analysis, 20 for each experimental condition except for 'staff auditor - unfamiliar' for which there were 19.

All manipulation checks indicated that the experimental manipulations were successful. However, as discussed in the following section, some subjects misinterpreted the contents of one of the cases.

### *3.4.1 Protocol Coding*

All protocols were initially transcribed verbatim. In total, there were 9,910 words. Only sections from when the subject finished reading the materials until they made a final decision were transcribed and subsequently coded. The initial reading of the case, although verbalised, was not coded as it did not directly inform the hypotheses in this study.

These verbalisations were, however, examined with a view to establishing whether subjects understood each of the cases. With the exception of Case 1 (see Exhibit 2), the contents of each case were fully understood. With regard to Case 1, three subjects misinterpreted the underlying audit issue that was the focus of the case. Rather than focussing on the issue of valuation, these subjects were concerned with existence and considered whether the audit assistant would, for example, climb on top of boxes to test count this inventory. It is believed that this interpretation makes the case simpler. That is, this issue is easier for the assistant to identify than the issue intended to be reflected in the case. These three protocols were, nevertheless, included in the analysis as this interpretation still fits within the framework used to develop the cases.

The average length (in words) of each protocol in each of the four experimental conditions (Panel A) and the length of the first, second, third, and

fourth protocols (Panel B) are reported in Table 3.

**Table 3**
*Length (in words) of Protocols*

| | Mean | Range |
|---|---|---|
| Panel A - Experimental Condition | | |
| Familiar - Subordinate | 130.45 words | 35 - 294 words |
| Unfamiliar - Subordinate | 127.47 words | 41 - 208 words |
| Familiar - Peer | 110.50 words | 28 - 288 words |
| Unfamiliar - Peer | 133.65 words | 25 - 302 words |
| Panel B - Order | | |
| First | 120.68 words | 25 - 288 words |
| Second | 111.85 words | 28 - 209 words |
| Third | 120.35 words | 44 - 302 words |
| Fourth | 148.85 words | 41 - 294 words |

There was no statistically significant difference in the length of the protocols across the four experimental conditions ($F$=0.537, $p$=.658) or the order in which each protocol was provided (ie. first, second, third, or fourth) ($F$=1.713, $p$=.175). The fact that the protocols did not become more abbreviated as the administration of the research materials progressed suggests that maturation did not occur.

Each protocol was also examined with a view to identifying if any participant provided explanations for their judgements or judgement process.[39] There were no justifications or explanations provided in any of the protocols.

Following transcription, the protocols were broken up into discrete protocol episodes representing a unique thought, word, comment, etc. In order to do this, the transcribed protocols were examined in conjunction with the tape recordings so as to identify pauses which would indicate a new protocol episode was about to begin. This led to a total of 870 protocol episodes.

[39] This might indicate Type 3 verbalisations thereby raising a question on the reliability of the protocol data.

As has traditionally been the case, general theories of problem solving (Newell and Simon 1972; Einhorn and Hogarth 1981) provided the foundation for developing a protocol coding scheme.

Newell and Simon (1972) suggest the existence of a problem space within which problems are solved. This problem space can be defined in terms of *goals*, *operators*, and *states of knowledge*. It was the subject's operators that were of primary concern in this study as it is this aspect of the problem space that defines the processes or actions employed in order to make a decision or judgement.

Three broad categories of operators were identified and defined; information acquisition, processing, and decision.[40] Information acquisition referred to those operators that involved the identification and or retrieval of information believed necessary to complete the task. This information may have been retrieved from memory or from the case materials. Processing operators involved the use of information in order to create new knowledge or bring to bear new information (this is sometimes referred to as a state of knowledge). Finally, decision operators involved the use of information to make the decision required in the particular situation.

Within these three broad categories, 23 sub categories were defined as is outlined in Table 4.[41]

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[40] To facilitate independent coding, these operators were referred to as input processors, processing processors and decision processors, respectively.

[41] In addition, a final category 'no meaning verbalisations' was defined so as to have a complete coding scheme.

**Table 4**

*Operator Sub-Category Descriptions*

| Operator | Brief Description |
|---|---|
| Information Acquisition Operators | |
| Individual identification/ specification | Coded when subject identified any individual. |
| Category identification/ specification | Coded when subject identified any group of individuals. |
| Individual description | Coded when subject made a statement about an individual. |
| Category description | Coded when subject made a statement about a group or category of individuals. |
| Relationship identification | Coded when subject indicated the relationship between the assessor and assessee. |
| Case data / issue input | Coded when subject was taking factual information from the case. |
| Input error correction | Coded when subject corrected an earlier error in input. |
| Processing Operators | |
| Case information | Coded when subjects processed some aspect of the case material. |
| Case situation assumption | Coded when subjects made some assumption to overcome perceived gaps in the case materials. |
| Individual assumption | Coded when subjects made some assumption about the individual being assessed. |
| Individual non-comparison | Coded when the subject made some inference about the individual. |
| Category non-comparison | Coded when the subject made some inference about a category or group. |
| Individual level comparison | Coded when a comparison was made between individuals. |
| Inter-category comparison | Coded when there was a comparison between two categories or groups. |
| Intra category comparison | Coded when there was a comparison between an individual and the average of a category. |
| Non-case circumstance | Coded when there was a consideration of an issue not part of the case. |
| Non case decision | Coded when a decision was made that was not part of the case. |
| Cognitive effort comment | Coded when there was a comment on how easy or difficult the decision was to make. |
| Decision Operators | |
| Decision competency statement | Coded when there was some comment on the individual competency relating to the case circumstances. |
| Decision competency qualifier | Coded when subject indicated that a previous competency statement might need to be corrected. |
| Scale familiarity | Coded when the subject was becoming familiar with the decision scale. |
| Scale placement | Coded when the subject was deciding where on the scale to place the circle. |
| Statement of strategy | Coded when subjects went further than what was required and stated how they would proceed in that particular circumstance. |
| No meaning verbalisations | |
| No meaning verbalisations | Verbalisations that have no meaning or the verbalisation abruptly stopped before meaning could be established. |

The subjective nature of protocol coding means that it is important to employ techniques aimed at increasing the reliability of the data subsequently subjected to analysis. In this regard, a number of techniques were employed.

The protocols for each case and each subject (four for each subject representing the four experimental conditions) were individually printed so that the experimental condition or subject from which the protocol derived was not immediately apparent (on occasions, it was evident from the verbalisations which condition was being tested). This also facilitated the random ordering of the 79 protocols.

Two coders, one of which was the author and the other an academic colleague with public accounting experience, independently coded each of the protocols. The coder who was not the author was blind to the research propositions and both coders were blind to the experimental condition from which each protocol was derived. The two coders initially discussed the coding instructions and the descriptions of each of the protocol coding categories. Thereafter, three randomly selected protocols were independently coded and subsequently discussed. This identified some misunderstanding of the coding scheme between the coders which was discussed and resolved. Thereafter, another three protocols were randomly selected and coded. This second iteration revealed that there was sufficient understanding of the coding scheme by both coders. These six protocols were replaced and coded in sequence with the other protocols.

In order to evaluate the reliability of the protocol coding, the amount of non-chance agreement between the two coders was measured using the *kappa* coefficient (Cohen 1960). When considered in light of the 24 protocol operator

categories the *kappa* coefficient was .83. When collapsed across the four broad coding categories the *kappa* coefficient was .87. This represents a high level of reliability. A review of the protocol research that reports *kappa* coefficients (these are often not reported) reveals coefficients ranging from .67 to over .90. The disagreements between coders were discussed and resolved. The final agreed upon coding was used in the analysis.

Table 5 shows the number of protocol episodes in each of the 24 categories. The table reveals that there is a clear emphasis on 'individual descriptions' (16%), 'individual non-comparisons' (14%), and 'scale placement' (13%).

**Table 5**

***Number of Protocol Episodes for Each Operator Category***

| Protocol Episode Category | Number of Protocol Episodes |
|---|---|
| Information Acquisition Operators | |
| Individual identification / specification | 37 |
| Category identification / specification | 1 |
| Individual description | 142 |
| Category description | 5 |
| Relationship identification | 56 |
| Case data / issue input | 29 |
| Input error correction | 1 |
| Processing Operators | |
| Case information | 46 |
| Case situation assumption | 19 |
| Individual assumption | 14 |
| Individual non-comparison | 121 |
| Category non-comparison | 55 |
| Individual level comparison | 19 |
| Inter-category comparison | 10 |
| Intra-category comparison | 43 |
| Non case circumstance | 14 |
| Non case decision | 9 |
| Cognitive effort comment | 6 |
| Decision Operators | |
| Decision competency statement | 93 |
| Decision competency qualifier | 14 |
| Scale familiarity | 4 |
| Scale placement | 114 |
| Statement of strategy | 11 |
| No Meaning Verbalisations | |
| No meaning verbalisations | 7 |
| **Total** | **870** |

All 79 protocols were individually examined and a decision path developed which described the information used, when the information was used, how the information was used, and where the information derived from. The coding categories were the primary source of information used to prepare these decision paths. Exhibit 6 (on the following two pages) illustrates the entire process for one protocol from one subject.

## Exhibit 6

***Protocol Coding Example***

Verbatim Protocol

OK what confidence would I have that if he saw these excessive sales returns and allowances ahh he would be able to identify that they may also have implications for inventory warranty liabilities *Auditor A* is pretty good uhm in fact he's better than pretty good he's uhm probably one of the better seniors around within the firm uhm confidence by circling the appropriate number on the following scale 10 100% 0 no confidence yeh *Auditor A* is very good very thorough in what he does in terms of the prior work that I have done with *Auditor A* gee I've been very impressed in fact I aspire to be a little bit like him uhm yeh I think ahh 9 yeh I'd be yeh about 90% confident that *Auditor A* would be able to find this no one's perfect but uhm gee *Auditor A* is pretty close to that.

Protocol Episodes and Operator Categories

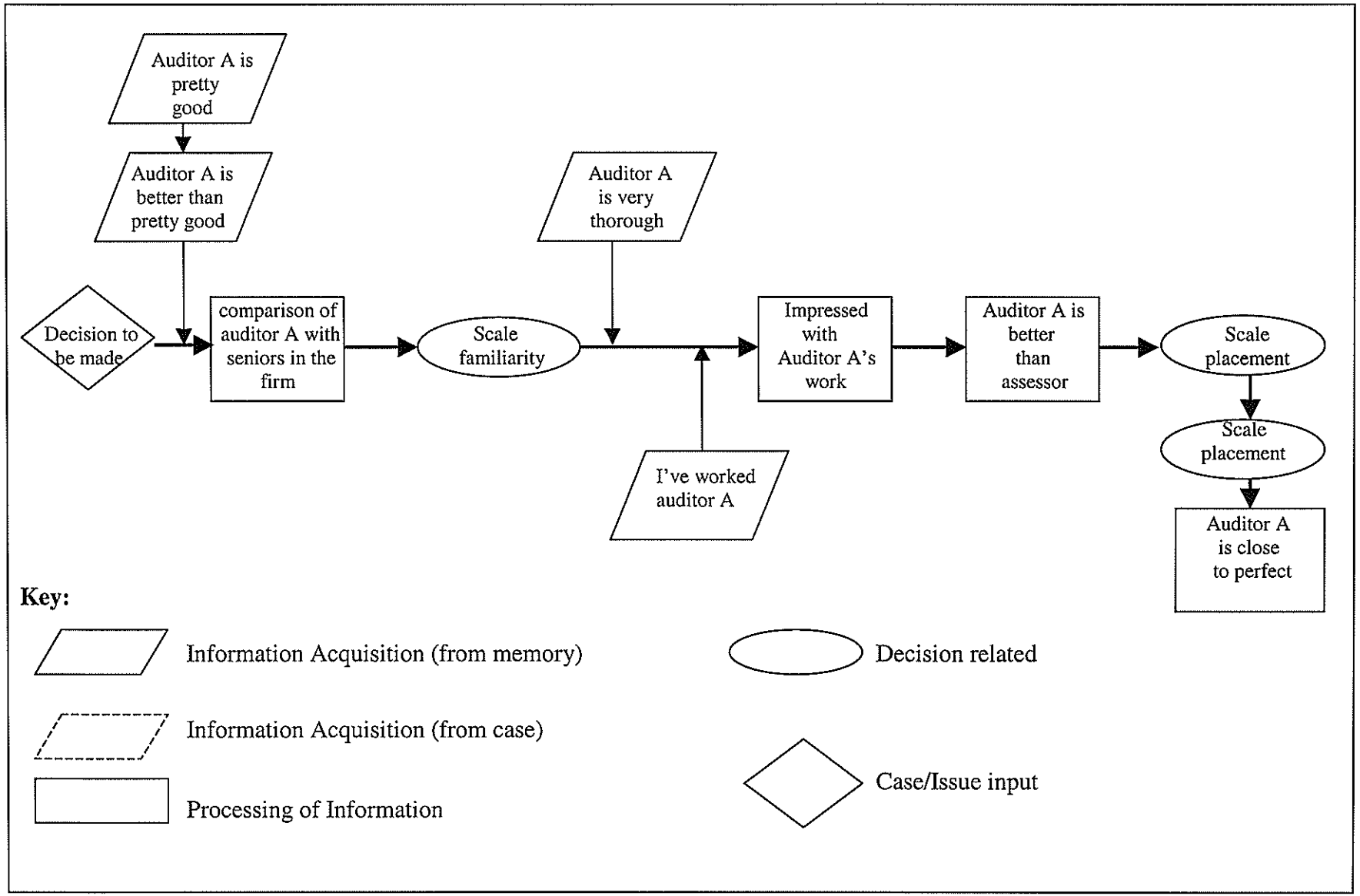
| **Protocol Episode** | **Operator Category** |
|---|---|
| Ok what confidence would I have that if he saw these excessive sales returns and allowances ahh he would be able to identify that they may also have implications for inventory warranty liabilities. | Case data / issue input |
| *Auditor A* is pretty good | Individual description |
| uhm in fact he's better than pretty good | Individual description |
| he's uhm probably one of the better seniors around within the firm | Intra category comparison |
| uhm confidence by circling the appropriate number on the following scale 10 100% 0 no confidence | Scale familiarity |
| yeh *Auditor A* is very good very thorough in what he does | Individual description |
| in terms of the prior work that I have done with *Auditor A* | Relationship identification |
| gee I've been very impressed | Individual non-comparison |
| in fact I aspire to be a little bit like him | Individual level comparison |
| uhm yeh I think ahh 9 | Scale placement |
| yeh I'd be yeh about 90% confident that *Auditor A* would be able to find this | Scale placement |
| no one's perfect but uhm gee *Auditor A* is pretty close to that | Intra-category comparison |

Decision Path Developed

SEE FOLLOWING PAGE

As was guaranteed, the names in the protocol have been replaced with Auditor A.

**Exhibit 6 (cont.)**



### *3.4.2 General Discussion*

The protocols revealed, as expected, that the relationship between the assessor and assessee is an important consideration when assessing competence. Of all information acquisition operators, 20.7% were 'relationship identification' (coded when the subject indicated the relationship between the assessor and assessee). Surprisingly, however, approximately half (40) of the 79 protocols did not exhibit a relationship identification verbalisation.

Given the task required of each subject, it was not surprising to find 52.4% of all information acquisition operators were 'individual descriptions' (coded when the subject made a statement about an individual). However, what was surprising in light of the earlier discussion was that there was only one 'category identification / specification' (coded when the subject identified any group of individuals) and only five 'category descriptions' (coded when the subject made a statement about a group or category of individuals). An examination of the processing operators and decision paths revealed that on many occasions, information about the individual was processed with reference to social category characteristics.[42] This suggests that social category characteristics were an input into the judgement process, but were not specifically verbalised.

In general, the process did not consume significant cognitive resources. Subjects did not bring very much information to bear on the decision. Little information was retrieved from memory and what little processing that did occur did not create a significant amount of new knowledge. Subjects often repeated previously headed information throughout the task with little, if any, processing

[42] To illustrate, there were 43 'intra-category comparisons' which were coded when there was a

between references.

Subjects generally made competency statements relating to the case after very little processing. Any subsequent information acquisition or processing usually only provided confirmation of this initial prediction. Only rarely was this initial prediction revised in response to additional processing.

The following sections consider the data in light of the specific hypotheses.

### *3.4.3 Hypothesis 1*

Recall that the first hypothesis was concerned with whether auditors focus on an initial reference point from within the decision setting when predicting the future performance of other auditors. Protocols consistent with the use of an initial reference point would reveal, before any processing or decision, a statement that indicates a possible value for the competence assessment that has to be made. This statement would relate to information contained within the case. Examples of such statements include "auditor A is very good", "auditor A has a lot of experience", and "staff auditors would not be able to do this". These statements would be used as a base from which to make a final statement.

In this regard, the information acquisition operators were examined for each protocol with a view to identifying any such operator that involved a statement of possible value for the competence decision that was to be made. The decision paths were then examined so as to eliminate any such information acquisition operator verbalised after processing had taken place. This reduced set of operators was further examined to see if it formed the base from which the final decision was made and was related to information from within the case. This analysis

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comparison between an individual and the average of a category.

revealed that on 64 occasions (81% of all protocols), the protocol revealed such a statement.[43] Consistent with Hypothesis 1, there was a greater than chance use of an initial reference point from within the decision setting ($\chi^2$=30.392, $p$=.000).[44]

In five of the remaining 15 cases, subjects began with zero confidence and then processed information in order to see whether zero confidence was indeed appropriate. On two occasions, subjects made an initial 'guestimate' then processed information with a view to verifying whether this guestimate was correct. These strategies are consistent with the use of an initial reference point. However, the reference point is not from within the decision setting.

In the remaining eight protocols subjects immediately made a decision and the protocols did not reveal how this decision was made. While these eight instances were not systematically concentrated on any particular accounting firm or case, they generally related to predictions of a subordinate's performance with only two instances relating to the prediction of a peer's future performance.[45]

The results, therefore, support Hypothesis 1. Auditors do generally focus on an initial reference point from within the decision setting when predicting the future performance of another auditor.

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[43] Details of the specific reference points are provided in Section 3.4.5.

[44] By operationalising the test in this way, an implicit assumption is made that there were only two potential strategies, namely, the use of an initial reference point from within the decision setting and another strategy which encompasses all other potential approaches. This is a statistically rigorous test as the alternative would involve placing inconsistent approaches into individual categories representing the different approaches. This would have increased the number of categories and reduced the expected frequencies in each cell.

[45] One of these instances related to a protocol for which the subject misinterpreted the underlying audit issue that was the focus of Case 1 (Stocktakes) (see Section 3.4.1).

### *3.4.4 Hypotheses 2*

The second hypothesis examined whether auditors adjust from the initial reference point to arrive at a final judgement. Protocols consistent with adjustment would reveal additional information retrieved from the case or memory being combined with the initial reference point as the judge moved towards making a decision. That is, the initial reference point would be subject to processing in order to generate new knowledge. An analysis of the decision paths revealed that while the initial reference point was normally subject to some processing, this rarely resulted in any new knowledge or a change in the initial statement relating to a possible value for the competence decision (ie. the initial reference point). Of the 71[46] protocols revealing an initial reference point, 15 exhibited no adjustment.[47] While all of the remaining 56 protocols revealed processing of the initial reference point, in only 20 of these was a change from the initial reference point or new knowledge evident.[48] The following protocol is one such example.

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[46] This comprises the 64 protocols exhibiting an initial reference point from within the decision setting, the five protocols in which zero confidence was used as an initial reference point, and the two protocols in which an initial 'guestimate' was used as an initial reference point.

[47] Of these 15, three involved protocols where zero confidence was the initial reference point and one was where an initial guesstimate served as the initial reference point.

[48] One of these was from a protocol revealing zero confidence as the initial reference point.

| | |
|---|---|
| Line 1: | Uhm I would have a very high level of confidence. |
| Line 2: | Uhm I imagine that this person having had 4 years of experience would should have completed an audit uhm preliminary analytical reviews for at least a couple of clients. |
| Line 3: | Uhm unless that person had spent a fair amount of time in other departments uhm or. |
| Line 4: | but so the person has four years of audit experience so that's not a valid assumption. |
| Line 5: | Uhm so I would guess apply a reasonably high confidence uhm on that |
| Line 6: | So something in the order of 70 to 80% uhm that an auditor with 4 years of experience uhm from another state would be able to relate uhm a fluctuation in the one account with a fluctuation with a potential fluctuation in another account. |
| Line 7: | Uhm unless unless that person had never actually worked or had limited experience with some aspect of that audit. |
| Line 8: | Uhm which might actually reduce my confidence slightly. |
| Line 9: | So uhm I would suggest maybe downgrading that to possibly 60% |
| Line 10: | Uhm yeh. |

The processing in the remaining 36 protocols generally reinforced the initial reference point. The protocol in Exhibit 6 is a case in point. In this case, the subject seemed to be reinforcing their initial reference point that Auditor A is very competent.

Irrespective of whether or not an initial reference point was identified from the protocols, there was little processing of information prior to the making of a decision. Processing only accounted for approximately one-third of all decision activities in this task. Processing operator episodes represented only 41% of total episodes. For each of the 79 protocols, the mean proportion of processing operator episodes to total episodes was 39.32% (95% confidence interval: 35.22% to 43.41%).

Hypothesis 2 is, therefore, not supported. Auditors generally do not adjust from the initial reference point.

Prior literature has suggested that when anchoring and adjustment is used there is often insufficient adjustment from the anchor (eg. Slovic and Lichtenstein 1971). The present study's results are consistent with the suggestion that there is

not very much adjustment. It is not possible, however, to conclude that the adjustment is insufficient given the fact that there is no objective measure of performance.

It might be that there is no need to adjust from the initial reference point. This lack of adjustment might be the result of auditors developing rich social categories thereby allowing for a specific reference point to be employed and reducing the need for any adjustment. If this was the case, there would be greater need to adjust from the initial reference point when assessing the competence of an auditor with whom the assessee is unfamiliar. When assessing the competence of an unfamiliar auditor, the present study argues that a general initial reference point would be employed. This would require greater adjustment than when a more specific initial reference point was used.

Analysis of the protocols revealed that there was a greater proportion of processing episodes when predicting the future performance of an unknown auditor (mean 42.27%) compared to a known auditor (mean 32.76%) ($t$=2.376, one tailed $p$=.010). This lower proportion of processing is consistent with the understanding that when assessing the competence of an auditor with whom they are familiar, auditors employ what they believe to be a more diagnostic reference point allowing them to more directly come to a judgement about the assessee's competence.

While there was more adjustment when assessing the competence of an unfamiliar auditor than a familiar auditor, processing as a proportion of all activities was still low. This result highlights the importance of the initial reference point in making accurate assessments. The fact that little information is brought to bear on the decision and the fact that there is not much processing of

that information suggests a strong relationship between the accuracy of the initial reference point and the accuracy of judgements. As a precondition to improving the accuracy of the initial reference point, it is necessary to understand the circumstances when particular reference points are more or less likely to be employed. This is the focus of Hypotheses 3 to 6 which are discussed in the following section.

### *3.4.5 Hypotheses 3 to 6*

Underlying Hypotheses 3 to 6 was the belief that the relationship between the assessor and assessee significantly influences the approach to the assessment of the assessee's competence. In particular, it influences the initial reference point employed.

The protocols were consistent with the general categorisation process believed to underlie the assessment process. There was a concentration of intra-category comparisons in cases where the assessee was assessing an unfamiliar assessee. When not familiar with the assessee, in 21 of 37 protocols there was at least one intra-category comparison. When familiar with the assessee, only three of the 34 protocols revealed an intra category comparison.

In order to test Hypotheses 3 to 6, the initial reference points used by each subject across the four research conditions were examined. No subject used the same initial reference point on more than one occasion. The average number of initial reference points employed was 3.55 (range 2-4) (95% confidence interval: 3.20 to 3.91).[49]

[49] This analysis includes all subjects including the one subject who only has a protocol for three of the cases (maximum number of reference points is three) and the subjects who on occasions did not appear to use an initial reference point (maximum number of initial reference points is two to

This is contrary to speculation in the psychology literature which suggests that assessors anchor on their own knowledge when assessing the knowledge of others (Nickerson *et al.* 1987; Fussell and Krauss 1992). In fact, the assessors knowledge / competence was used as an initial reference point in only three of the 79 cases (3.8%).

The fact that subjects used different initial reference points is a strong result given the fact that the reference points used in previous cases would have been particularly salient in the minds of each subject. Despite this, subjects still chose to use different anchors.[50]

The discussion preceding Hypotheses 3 to 6 suggested that particular initial reference points would be used in specific circumstances. These discussions are summarised in Table 6.

**Table 6**

*Summary of Hypotheses 3 to 6*

| Hypotheses | Situation | Expected Initial Reference Point |
|---|---|---|
| 3 | Assessment of a peer with whom the assessor has not previously worked | Perceived competence of seniors in general. |
| 4 | Assessment of a peer with whom the assessor has previously worked | Perceived competence of the specific peer being assessed. |
| 5 | Assessment of a subordinate with whom the assessor has not previously worked | Perceived competence of staff auditors in general. |
| 6 | Assessment of a subordinate with whom the assessor has previously worked | Perceived competence of the specific subordinate being assessed. |

three).

[50] The protocols were examined with a view to identifying whether this result derived from a demand effect. If demand effects were driving this result, it would be expected that the protocols would reveal a reference back to previous reference point and possibly a comment on the fact that a different anchor had to be used. The protocols did not reveal any such verbalisations.

The initial reference points identified in the examination of Hypothesis 1 were grouped according to the experimental condition from which they derived.

Initial reference points that related to knowledge or ability were classified as competency based depending on what knowledge or ability was being referred to. For example, some knowledge references referred to an individual's knowledge while others referred to the average knowledge of a group of people. References to experience however proved to be more problematic. Experience is an input variable that, in part, determines the internal state of knowledge.[51] Like knowledge and ability it is competency based. However, unlike knowledge and ability, it was not always clear to what competency the reference related to (ie. individual competency or generic group competency). Usually it was possible to identify whether the competency statement referred to a generic group or an individual from subsequent episodes. These references were classified accordingly. However, on eight occasions it was not possible to discern to what the reference referred to. It is likely that that these are individual specific references when assessing the competence of a familiar auditor and generic references when assessing the competence of an unfamiliar auditor. However, in the interests of objective analysis, these references were separately classified as experience, so as to allow all tests to be re-performed excluding these eight observations.

To illustrate the difficulty, consider the following extract from a protocol in the study.

[51] See Section 1.4 of Chapter One.

Line 1: OK given that uhm he's already had one year's experience in another state.

Line 2: I would assume that he'd already have sufficient exposure and a level of competence to carry out cut-of tests.

Line 3: Which is something that a first year person would examine during the audit.

In this case, from lines 2 and 3 it clear that the competence (experience) reference in line 1 is to the generic competence of auditors with one year of experience. However, in the absence of lines 2 and 3, it would not be possible to identify whether the reference was to the specific auditor or a generic group of auditor's with this auditors experience.

Table 7 reports the initial reference points used in each of the four experimental conditions (representing each of the four hypotheses noted above).

**Table 7**

***Initial Reference Points Employed in Each Experimental Condition (Hypotheses 3 to 6)***

| | Hypothesis 3 | Hypothesis 4 | Hypothesis 5 | Hypothesis 6 |
|---|---|---|---|---|
| Generic competence of seniors | 12 | 2 | - | - |
| Specific competence of individual peer | - | 13 | - | - |
| Generic competence of staff auditors | - | - | 8 | 2 |
| Specific competence of individual subordinate | - | - | - | 10 |
| Assessor's competence | 1 | - | 1 | 1 |
| Assessee's level of experience[1] | 2 | 2 | 2 | 2 |
| Height of assessee[5] | - | - | - | 1 |
| Competence of another auditor[2] | 1 | - | 3 | - |
| No confidence since don't know them[3] | 3 | - | 2 | - |
| Competence / Dedication of Asians | - | - | 1 | - |
| Initial 'guestimate'[4] | 1 | 1 | - | - |
| Total | 20 | 18 | 17 | 16 |

Notes

1 These subjects used experience as the initial reference point. However, it was not clear if this was used in reference to the competence of an individual or the generic competence of a group of individuals.

2 This initial reference point was the competency of another auditor (same hierarchical level) with whom the assessor was familiar.

3 Some subjects used the fact that they could have no confidence because they did not know their ability as the initial reference point.

4 Some subjects used an initial assessment (often the mid point) as their starting point.

5 The case from which this protocol derived was the one concerning inventory in difficult to reach locations.

The dark shaded cells in Table 7 highlight observations consistent with the expected initial reference points reflected in each of the hypotheses. The lightly shaded cells highlight the experience related observations which are likely to be consistent with expectations. For analysis purposes, the lightly shaded observations are considered consistent with expectations. However, in the interests of completeness, results assuming that these observations are inconsistent are also reported.

Of all observations, 71.8% were consistent with expectations reflected in Hypotheses 3 to 6. However, the results were not consistent across all four experimental conditions. In particular, the results do not support the expectations reflected in Hypothesis 5 (58.8% consistent). These conclusions are reflected in the statistical analysis.

A chi-squared test of proportions was carried out for each of the four experimental conditions. This test examines whether there is a greater than chance preference for one initial reference point as compared to other initial reference points. As was the case when testing Hypothesis 1, a dichotomous environment was created. The two possibilities were a reference point consistent with that proposed in the hypothesis and any other reference point not consistent. In this way, a statistically rigorous test is generated. A significant chi-squared statistic would indicate that there was a greater than chance preference for the expected reference point. The results from this analysis are reported in Table 8.

**Table 8**

*Chi-Squared ($\chi^2$) Test of Proportions*

| | Including All Cases (n=79)[1] | | Excluding cases where no initial reference point was identified (n=71)[2] | |
|---|---|---|---|---|
| | **Chi-Squared Statistic ($\chi^2$)** | **Significance** | **Chi-Squared Statistic ($\chi^2$)** | **Significance** |
| Panel A - Experience Observations Consistent[3] | | | | |
| Hypothesis 3 | 3.20 | .074 | 3.20 | .074 |
| Hypothesis 4 | 5.00 | .025 | 8.00 | .005 |
| Hypothesis 5 | 0.00 | 1.00 | 0.53 | .467 |
| Hypothesis 6 | 0.80 | .371 | 4.00 | .046 |
| Panel B - Experience Observations Inconsistent[4] | | | | |
| Hypothesis 3 | 0.80 | .371 | 0.80 | .371 |
| Hypothesis 4 | 1.80 | .180 | 3.56 | .059 |
| Hypothesis 5 | 0.80 | .371 | 0.60 | .808 |
| Hypothesis 6 | 0.00 | 1.00 | 1.00 | .317 |

Notes

[1] This analysis includes all observations including those eight that did not reveal the use of an initial reference point (coded as inconsistent).

[2] This analysis only includes those observations revealing the use of an initial reference point.

[3] This analysis treats the experience observations (light shading in Table 7) as consistent.

[4] This analysis treats the experience observations (light shading in Table 7) as inconsistent.

Table 8 reveals varying degrees of statistical support for the expectations reflected in Hypotheses 3 to 6. Hypothesis 5 is not supported under any of the four sets of analyses. Indeed, Table 7 reveals the range of initial reference points that were used assessing the competence of a subordinate with whom the assessor is not familiar.

When considering experience observations consistent with expectations, the results provide support for Hypotheses 3 and 4. That is, expectations relating to the assessment of a peer's competence. Some statistical support is provided for Hypothesis 6, but only when experience observations were considered consistent and excluding those observations where no initial reference point was evident.

Table 9 reports the number of protocols for each subject that revealed an

initial reference point consistent with the expectations reflected in the four hypotheses (this analysis includes those observations that did not reveal an initial reference point).

**Table 9**

***Number of Protocol Observations Consistent with Expectations for Each Subject***

| | **Number of Subjects** *Including Experience Cases*† | **Number of Subjects** *Excluding Experience Cases*† |
|---|---|---|
| All 4 protocols consistent | 4 (20%) | 4 (20%) |
| 3 protocols consistent | 7 (35%) | 4 (20%) |
| 2 protocols consistent | 6 (30%) | 6 (30%) |
| 1 protocols consistent | 3 (15%) | 4 (20%) |
| 0 protocols consistent | 0 (0%) | 2 (10%) |

† The experience cases are those where the initial reference point was experience of the assessee (see the lightly shaded observations in Table 7).

In summary, Hypotheses 3 and 4 are supported. The results do not support Hypotheses 5 and 6.

The results suggest that when predicting the future performance of a familiar peer (Hypothesis 4), auditors use the specific competence of the assessee as the initial reference point. When predicting the future performance of an unfamiliar peer (Hypothesis 3), auditors use the competence of seniors in general as the initial reference point.

When predicting the future performance of subordinates (Hypotheses 5 and 6), there was not as strong a preference for a particular initial reference point. This inconsistency could be the result of a variety of experiences with subordinates resulting in a variety of social categories. With seniors, the experiences are more likely to be consistent across subjects leading to greater consistency in their assessment strategies.

## 3.5 Discussion, Limitations and Future Research Directions

With the ultimate goal of improving auditor judgements, this study used concurrent verbal protocol methodology to explore the process by which auditors assess the competence of other auditors. It follows a limited accounting and psychology literature suggesting that individuals (including auditors) are unable to accurately assess another persons knowledge or competence and that the process used might include the anchoring and adjustment heuristic.

The fact that auditors may overstate the competence of other auditors (Kennedy and Peecher 1997; Tan and Jamal 2001) has wide ranging implications for audit effectiveness. Underqualified auditors may be assigned to tasks they are unable to complete and reviews may not be as extensive as should otherwise be the case. Notwithstanding this concern, the lack of understanding of the process by which auditors assess the competence of others represented an impediment to any attempt directed towards improving auditor judgement in this area. By examining the underlying process, the present study reports results that can be used to direct the future search for ways to improve these judgements.

Using verbal protocol methodology, the study revealed that auditors use an initial reference point when assessing the competence of another auditor. This initial reference point is consistent with an anchor (within an anchoring and adjustment context) except that it sometimes is not drawn from the decision setting. Very little additional processing is applied to this initial reference point. There was less processing when assessing the competence of a familiar auditor compared to an unfamiliar auditor. This is consistent with the understanding that a more diagnostic reference point is used when assessing the competence of a familiar colleague, thereby reducing the perceived need for adjustment. These

results reinforce the importance of the accuracy of this initial reference point when determining the accuracy of competence judgements.

Contrary to speculation in the psychology literature, different reference points were used in different situations. There was some consistency between the assessor / assessee relationship and initial reference point employed. This relationship was stronger when examining assessments of a senior's competence by another senior. When seniors assess the competence of another senior with whom they are familiar, they rely on perceptions of this senior's overall competence as an initial reference point. When assessing the competence of an unfamiliar senior, the reference point relied on becomes the average competence of seniors in general. The results were inconclusive with regard to the initial reference point used when a senior assesses the competence of a staff auditor (subordinate). This was the case for both familiar and unfamiliar subordinates.

The results reported above must, however, be considered in light of the study's limitations. These limitations, in turn, highlight avenues for future research effort.

Like all research methodologies, the verbal protocol methodology suffers from a number of limitations. These limitations have been well documented in the literature and were discussed in Section 3.3.1 of this chapter.

While the procedures recommended by Ericsson and Simon (1993) to minimise the effect of these limitations were employed throughout the study, there remains the possibility that the verbal protocols collected do not provide a complete representation of the subject's decision processes. Protocols revealing the processing of information that was not previously verbalised demonstrates that this was, indeed, the case. It is also possible that the requirement to 'think aloud'

may have changed the way in which subjects processed the information. It is not possible to determine the extent to which these potential threats limit the generalisability of the results.

Other research methodologies do not suffer from these limitations but nevertheless suffer from other limitations (some of which the protocol methodology overcomes). This highlights the merits of a multi-method approach to the investigation of these issues and suggests that future research effort could be usefully directed towards the use of these other methodologies to corroborate the findings reported in this chapter.

More specific to the present study is the fact that most subjects were drawn from one of the then 'big-five' accounting firms. While some subjects were drawn from other firms and the results analysed with a view to identifying any between firm variation, there remains the question of generalisability. Similarly, all subjects were seniors. The extent to which these results can be generalised to other firms and other hierarchical level awaits future research. This is likely to be of interest given the rigid, but not necessarily same, hierarchical structures prevailing in the 'big-four' accounting firms.

In addition, the present study did not incorporate an objective measure of performance. The study is, therefore, limited by the fact that it is not possible to draw conclusions on the appropriateness of any documented strategy. Future research could usefully be directed towards identifying the processes employed by accurate assessors and compare those with the processes employed by poorer performing assessors.

Future research can also be usefully directed towards the accuracy of the inputs retrieved from memory and how this impacts on assessment accuracy. This

is an issue that is, in part, explored in Study Two.

The following chapter reports on a study which draws on these findings to explore ways in which feedback might improve assessments of another auditor's competence.

# Chapter Four
# Study Two - Behavioural Experiment

## 4.1 Introduction

In the previous chapters, it was noted that auditors do not objectively assess the knowledge or competence of other auditors (Kennedy and Peecher 1997; Jamal and Tan 2001; Tan and Jamal 2001). However, given the fact that little was known about the way in which auditors make these important judgements, it was difficult to investigate potential interventions that might be employed to improve these judgements. Within this background, Study One examined the process by which auditors assess the competence of other auditors, including the information brought to bear on these decisions. Study Two uses this understanding to investigate ways of improving the quality of these judgements. The study does not attempt to identify superior strategies or argue that auditors should change the way in which they predict the competence of others. Instead, it proceeds on the premise that auditors use the strategy identified in Study One and examines one intervention that might assist auditors to better apply that strategy in order to make improved judgements.

Specifically, this study investigates whether the provision of outcome feedback can improve the assessment of another auditor's competence. Two types of outcome feedback are examined; 'individual specific feedback' and 'average group feedback'. The study argues that the provision of outcome feedback can improve the assessment of another auditor's competence. However, this will not always be the case and depends on both the type of outcome feedback and the

relationship between the assessor and the colleague whose competence is being assessed.

In addition to examining whether the provision of outcome feedback can improve performance in this task, the study also makes a direct contribution to the feedback literature by investigating the benefit of outcome feedback in a setting not previously examined in the literature, namely, a situation requiring the acquisition of both declarative and procedural knowledge (see Bonner and Walker 1994).

The remainder of this chapter is structured as follows. Section two notes that one possible reason for the overconfidence identified in previous studies is the asymmetric nature of feedback in auditing, making feedback a useful starting point in any endeavour directed towards reducing overconfidence. Section three uses the findings of Study One (see Chapter Three) and the feedback literature to examine the way in which feedback might improve these judgements and states the hypotheses to be tested. Section four describes the research methodology followed by the results in section five. The final section reviews the implications of the study's findings and limitations. Future research directions are suggested.

## 4.2 FEEDBACK

The audit environment is characterised by asymmetric feedback. While the review process is a central quality control mechanism in audit firms (Solomon 1987; Rich, Solomon, and Trotman 1997a), errors and omissions on the part of audit staff will not always be identified in a review (eg. Ramsay 1994; Harding and Trotman 1999). Performance suggesting a lack of competence (eg. failure to identify an existing overstatement) has the potential to go unnoticed. Performance

suggesting sufficient competence (eg. identifying an overstatement), on the other hand, is likely to be noticed as it would be prominent in the workpapers and specifically reviewed by the senior or manager. When reviewers revise their perceptions of their subordinate's competence, there is likely to be an imbalance between available positive and negative information, with the former dominating. In addition, the impression formation literature suggests that for impressions of ability, positive behaviours are generally viewed as being more diagnostic (eg. Skowronski and Carlston 1987; Anderson and Marchant 1989).[52] This imbalance between positive and negative information is likely to be one factor contributing to the overconfidence auditors have in their subordinate's competence. Feedback that has the potential to provide a more balanced perspective of an auditor's performance may be one mechanism by which to reduce overconfidence.

Three types of feedback have traditionally been studied in the literature; outcome feedback, task properties feedback, and cognitive feedback. Outcome feedback, which is the focus of this study, is the provision of information indicating whether a judgement or decision was correct or not. Despite its extensive use in practice, studies have revealed that outcome feedback, by itself, has little positive impact on performance (see Balzer, Doherty, and O'Connor 1989). However, task complexity is argued to be one factor influencing the effectiveness of outcome feedback (eg. Balzer, Hammer, Sumner, Birchenough, Martens, and Raymark 1994; Kluger and DeNisi 1996). Simple tasks are argued to benefit more from outcome feedback than complex tasks (Kluger and DeNisi 1996). In accounting, research has shown that where the decision maker has task

[52] Negative behaviours are overly weighted when questions of morality (eg. honesty) are involved.

experience (or has knowledge of the task components) and the task has a high level of predictability, outcome feedback can have a positive impact (Harrell 1977; Ashton 1990; Hirst and Luckett 1992; Bonner and Walker 1994; Hirst, Luckett, and Trotman 1999).

The beneficial component of outcome feedback seems to derive from the fact that in highly predictable tasks with which the decision maker is familiar, outcome feedback allows them, over time, to identify and correct deficiencies in their judgement approach. That is, it helps them to more fully and accurately understand the judgement environment. Where the decision maker is unfamiliar with the task, the outcome feedback highlights the existence of judgement deficiencies, but suggests no explicit strategy for improvement. In such situations, the judge has no choice but to randomly revise the judgement strategy thereby leading to no improvement in performance, or even a deterioration in performance.

Previous studies in accounting (eg. Hirst and Luckett 1992; Hirst *et al.* 1999; Earley 2001) have examined outcome feedback in an environment where relevant cues (in the context of the study) are provided and it is the judge's task to weight and combine those cues in order to make a judgement. Outcome feedback was studied in terms of it's ability to help subjects learn how to appropriately weight and combine the cues. That is, its ability to foster the development of procedural knowledge. Bonner and Walker (1994) define procedural knowledge as "...consist[ing] of the rules or steps needed for performing skilled tasks"(p.158). While this situation does prevail in a number of accounting and auditing settings, there are just as many settings where the cues are not provided and must be independently obtained by the decision maker. The assessment of a subordinate's

competence is one such situation. In this situation, the assessor (eg. senior) must independently acquire the cues, *then* weight and combine them in order to assess the subordinate's (eg. staff auditor) competence. That is, they do not have a list of relevant cues from which to make a decision. Rather, the relevant cues are acquired through experience and stored in memory. Bonner and Walker (1994) refer to this as declarative knowledge, "...knowledge of facts and definitions" (p.158). They note that declarative knowledge is necessary in order to effectively use procedural knowledge.

Bonner and Walker (1994) while recognising the importance of declarative knowledge, focussed on the effect of various combinations of instruction, practice, and feedback on an auditing ratio analysis task via improvements in procedural knowledge. The present study investigates the issue of whether outcome feedback can lead to performance improvements in a situation where cues must be independently acquired and then weighted and combined, specifically, the assessment of another auditor's competence. The study, therefore, extends the existing feedback literature by examining whether feedback improves performance in a situation where the feedback might benefit the acquisition of declarative and/or procedural knowledge.

Study One identified that when assessing the competence of others, a heavy reliance is placed on an initial reference point with little or no adjustment thereto. The quality (accuracy) of this reference point is, therefore, an important factor in determining judgement performance. The more accurate the initial reference point, the more accurate the judgement. This study examines the way in which outcome feedback affects performance by improving the quality of the initial reference point used when judging the competence of others.

Unlike Study One that operationalised competence as expected future performance, the present study operationalised competence as actual past performance.

## 4.3 Hypotheses

The provision of outcome feedback informs, or is perceived to inform, several aspects of the decision environment. Specifically, it informs the strategy being employed including the way in which cues are weighted and combined (procedural knowledge) and the accuracy of the cues being employed (declarative knowledge).

Feedback guides or directs strategy towards the achievement of a goal (Huffman and Houston 1993). Where outcome feedback is consistent with the strategy employed, it will reinforce the decision process encouraging its continued use. This reinforcement occurs irrespective of whether the decision strategy is appropriate or not, and is amplified with the frequency with which the feedback is provided (Frederickson, Peffer, and Pratt 1999). Where outcome feedback is inconsistent with the strategy being employed, a state of cognitive confusion will arise where the judge questions their strategy and attempts to modify the strategy in line with the perceived information content of the feedback.

In addition to influencing strategy (which might include the search for appropriate cues if they are not provided) outcome feedback might influence the accuracy of the cues employed if there is a sufficiently strong relationship between the feedback and the cue. Given that the outcome feedback relates to the outcome rather than cue accuracy, this is most likely to be the case when the

decision strategy is dominated by one diagnostic cue (ie. the decision is not one characterised by a considerable number of cues being combined and weighted).

In this study, two types of outcome feedback are of interest; 'individual specific feedback' and 'average group feedback'. Individual specific feedback relates to the competence of an individual (the person being assessed). Average group feedback relates to the competence of a generic group of individuals (the social group within which the person being assessed would belong). For example, average competence of senior auditors.

Recall from Study One that when predicting the future performance of a colleague with whom they are familiar, auditors rely heavily on their perception of the individual competence of the person whose performance they are predicting as an initial reference point. When predicting the performance of an unfamiliar colleague, the initial reference point becomes the auditor's perception of the average competence of auditors within the same category as the colleague whose performance is being predicted. This was particularly the case when auditors assessed the competence of another auditor at the same hierarchical level as themselves (ie. a peer).

When an auditor is assessing the competence of someone they are familiar with, individual specific feedback will not only be consistent with the strategy employed (thereby providing reinforcement) but will also allow them to modify their perception of the individual's competence or change the weighting applied to the perception of competence, in turn, allowing them to make more accurate predictions. The provision of average group feedback, on the other hand, will not be consistent with the strategy employed and will not allow for any meaningful improvement in the judge's perception of the individual's competence or the way

in which the cue is weighted. In this situation, there will be no improvement in the accuracy of predictions and possibly even a deterioration in performance. The opposite is argued to be true when an auditor assesses the performance of someone they are unfamiliar with and the provision of average group feedback will be consistent with the strategy and initial reference point employed. These expectations are expressed in Hypotheses 1 and 2.

Hypothesis 1a: Where the assessor is familiar with the assessee, the provision of individual specific feedback will result in superior performance than when average group feedback or no feedback is provided.

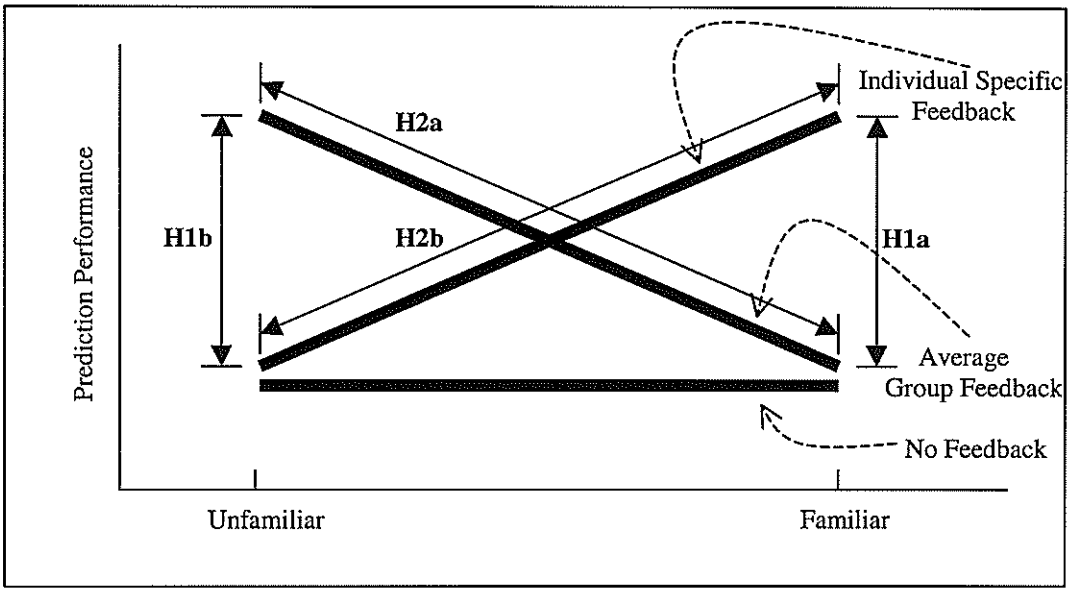
Hypothesis 1b: Where the assessor is unfamiliar with the assessee, the provision of average group feedback will result in superior performance than when individual specific feedback or no feedback is provided.

Hypothesis 2a: Where the assessor receives average group feedback, performance will be superior in the situation where the assessor is unfamiliar with the assessee than when they are familiar.

Hypothesis 2b: Where the assessor receives individual specific feedback, performance will be superior in the situation where the assessor is familiar with the assessee than when they are unfamiliar.

Exhibit 7 illustrates the components of the interaction reflected in Hypotheses 1 and 2.

**Exhibit 7**
***Hypotheses 1 and 2***




In summary, the hypotheses suggest that the effects of individual specific feedback and average group feedback will be contingent on the nature of the relationship between the assessor and assessee.

The following section details the methodology employed to examine the hypotheses.

## 4.4 METHODOLOGY

### *4.4.1 Experimental Design*

The hypotheses were examined with a 3 (feedback type) by 2 (familiarity) by 3 (block) factorial design. Feedback was manipulated between subjects, familiarity and block were manipulated within subjects. Three feedback treatments were manipulated, namely; no feedback (control), individual specific feedback, and average group feedback. The two levels of familiarity were familiar

and unfamiliar. The three blocks each contained 16 predictions which were completed by each subject in turn.

Each of the three independent variables are discussed in the following section.

### *4.4.2 Independent Variables*

Feedback was manipulated between subjects and was varied across three levels; no feedback (control), individual specific feedback, and average group feedback. Individual specific feedback is feedback relating specifically to the past performance of the individual whose performance is being predicted. Average group feedback, on the other hand, is the averaged past performance of all members of the group (social category) to which the person whose performance is being predicted belongs.

In order to maximise statistical power and make efficient use of the available subjects, familiarity was manipulated within subjects across two levels; familiar with the assessee and unfamiliar with the assessee. Familiar refers to the fact that the assessor is familiar with the prior work performance of the assessee, but not necessarily in the specific area where performance is being predicted. Unfamiliar, on the other hand, refers to the fact that the assessor is not familiar with the work performance of the individual being assessed but knows the social category from which the person is drawn and has had some exposure to that category.

As will be discussed in Section 4.4.7, subjects made predictions of performance for 48 questions. In order to facilitate additional analysis of the results from testing Hypotheses 1 and 2, these 48 questions were divided into three blocks of 16 questions each. Section 4.4.7 describes the process by which the three blocks of 16 questions were constructed.

### *4.4.3 Dependent Variables*

The dependent variable of interest in this study is prediction performance (or what is often referred to in the psychology literature as external correspondence). Yates (1982) notes that "conceptually, at least, the class of rules one might use to index the external correspondence of probabilistic forecasts is boundless"(p.133). In psychology, the mean probability score (also known as the Brier Score) is the most widely used (Yates 1982; 1994). However, even the mean probability score is subject to variation in the way it is calculated.

A number of authors have offered a decomposition of the mean probability score (see Yates 1982; 1994). One such decomposition, and the most widely used (Yates 1994), shows prediction performance to be a function of calibration, discrimination, and variability. While discrimination relates to a judge's ability to predict different states (eg. correct or incorrect), calibration examines the relationship between the judge's frequency estimates and the proportion of times the predicted event actually happens. Variation is a function of the decision environment. Given the general finding in the literature of overconfidence, some authors focus on a confidence score rather than a calibration score (eg. Stone and Opel 2000).

In response to this literature, and recognition of the measures previously employed in the accounting literature, three measures of prediction performance were employed in this study; calibration, confidence, and percentage correct.

As is discussed in Section 4.4.7, subjects predicted the performance of another person using an eleven point scale anchored by 0 - 'I am certain that the student would have answered the question incorrectly' and 10 - ' I am certain that

the student would have answered the question correctly' (see Exhibit 8). This allowed for all three dependent variables to be economically calculated.

To do this, it was first necessary to convert each subject's responses so that they represented a prediction and a corresponding assessment of their confidence in that prediction. Responses 0 to 4 and 6 to 10 were coded as a prediction that the student would have answered the question incorrectly and correctly, respectively. With regard to confidence, responses of 0(10), 1(9), 2(8), 3(7), 4(6) were recorded as 1.0, 0.9, 0.8, 0.7, 0.6, respectively.

Subjects rarely responded '5' on the likelihood scale (which should represent the fact that subjects were guessing). Each subject, on average, used '5' on 6.95 occasions (out of a total of 96 predictions for each subject). Where a subject did respond '5', coding proceeded as follows. For both the calculation of calibration and confidence, a response of '5' was coded as a prediction (with 50% chance of being correct) that the student would have answered correctly. For percentage correct, responses of '5' were considered to mean 'I don't know' and not included in the analysis. This coding has no effect on calibration, adds noise to confidence, and reduces noise from percentage correct.

Calibration is a measure of the accuracy of a decision maker's confidence. Following Dilla, File, Solomon, and Tomassini (1991), calibration was calculated using the following formula;

$$\text{Calibration} = \frac{1}{N}\sum_{i=1}^{T} n_i \left| P_i - C_i \right|$$

Where:
- $N$ = total number of probability assessments
- $n_i$ = number of times a probability response was used
- $P_i$ = probability response category (ie. 1.0, 0.9. 0.8, 0.7, 0.6, 0.5)
- $C_i$ = percentage of correct responses for each category
- $T$ = total number of response categories

A low score indicates superior calibration with zero representing perfect calibration. The use of absolute value ensures that overconfidence at one response category does not cancel out underconfidence at another response category. The measure does not, however, reveal whether the decision maker is overconfident or underconfident. In order to assess the degree of overconfidence or underconfidence, a confidence score was also calculated.

Following Pincus (1991), Simnett (1996), and Kennedy and Peecher (1997), confidence was calculated using the following formula;

$$\text{Over/underconfidence} = \frac{1}{N}\sum_{i=1}^{T} n_i \left( P_i - C_i \right)$$

Where:
- $N$ = total number of probability assessments
- $n_i$ = number of times a probability response was used
- $P_i$ = probability response category (ie. 1.0, 0.9, 0.8, 0.7, 0.6, 0.5)
- $C_i$ = percentage of correct responses for each category
- $T$ = total number of response categories

A positive score indicates overconfidence while a negative score indicates underconfidence. Interpretation of this score, however, must proceed with caution. A score of zero may represent one of two possibilities. It may indicate that the decision maker is perfectly calibrated or that overconfidence/underconfidence at one probability response category is perfectly offset by

underconfidence/overconfidence at another probability response category. The score should, therefore, be considered following an examination of calibration.

Percentage correct has been widely reported in the literature as a measure of performance. It is used in this study as a measure of discrimination (see above). In order to calculate this measure, predictions were compared to the actual performance of the person whose performance was being predicted in order to determine if the prediction was correct or not.

### *4.4.4 Subjects*

Students were considered the appropriate subjects for this study. Peecher and Solomon (2001) argue that practitioners should not be used as research subjects unless it is evident that students and practitioners differ on some dimension thought to interact with variables of interest. The students in this study differ systematically from practitioners on one key element, that being audit experience. Audit experience, in turn, provides an opportunity to regularly work with other auditors and allows auditors to develop a much more comprehensive understanding of the competence of those with whom they work. While the extent to which the depth of understanding interacts with the independent variables is unknown, there is no reason to expect *a-priori* such an influence. In addition, the operationalisation of the experimental manipulations would have been extremely difficult if practitioners were to be used as subjects. While there would be no major impediment to the manipulation of familiarity, feedback would be more difficult. In this study, it would be necessary to obtain objective measures of individual auditor performance, then have other auditors predict that performance followed by either individual specific feedback or average group feedback. There would need to be an adequate number of iterations in order to provide sufficient

statistical power. The sensitive nature of the data would have also discouraged the support from any firm approached to participate, particularly given the exploratory nature of the issues investigated.

Subjects in this study were graduate students studying in the University of New South Wales' Master of Commerce degree program in China. Students in Beijing participated in the entire study (ie. stage one and stage two). Students in Guangzhou (Canton) were only involved in the first stage.[53]

Entry requirements into the program in China are consistent with those in Sydney, instruction is in English, and students graduate with a Master of Commerce in International Professional Accounting from the University of New South Wales. These graduates are eligible to study the Australian CPA examinations. These students were completing the final subject (Auditing and Assurance Services) of their Masters Degree program. Participation was voluntary and no incentives were offered.

In total, 80 students in Beijing and 28 students in Guangzhou completed the stage one materials which comprised 48 randomly ordered multiple choice questions. One student failed to provide an answer for more than half of the questions. This student's responses were excluded from all analyses.

In stage two, 83 students from Beijing participated. This was the same population of students from which those students who completed stage one were drawn. From a total available population of 94 students, 11 were unwilling or unable to participate. Three students did not provide complete responses and were,

[53] As will be discussed in more detail in Sections 4.4.6 and 4.4.7, there were two stages in the administration of the study. Stage one provided data that was necessary for the operationalisation of stage two.

therefore, not included in the analysis.[54] This resulted in a usable sample of 80 subjects. The average age of the subjects was 30.42 years. Three-quarters were female.[55]

### *4.4.5 Confidentiality Considerations*

Specific procedures were put in place to ensure the confidentiality of the participants and their responses. These procedures ensured that no individual would be able to identify those who participated (or did not participate), or be able to attribute any response to the individual who provided it. These procedures were put in place given the sensitive nature of student's predicting another student's performance and the fact that the author was an instructor in the course.[56] These procedures are described in Appendix Three and were explained to the subjects so that it was evident that their participation and responses were indeed anonymous.

### *4.4.6 Stage One*

Stage one involved participants completing a multiple choice questionnaire containing 48 questions. This allowed for a criterion measure of prediction performance (it is for these questions that the assessor predicted whether the assessee provided a correct answer). This was administered after half the auditing course had been completed. These questions were based on material that had been covered to date, were deliberately selected so as to vary in terms of difficulty (ie.

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[54] One of these students submitted incomplete materials at the conclusion of the study and the other two students exercised their option to cease participation prior to the completion of the study.

[55] There were four subjects who did not indicate their year of birth. Three subjects did not indicate their gender. The gender imbalance is also reflected in the entire student population from which the sample was drawn.

[56] The author was not involved in assessing student performance in this course.

they were not all novice tasks), and were taken from the test bank of Gay and Simnett (2000). By varying difficulty, different levels and combinations of knowledge, ability, and motivation are more likely to result in differences in performance. This was important in stage two which required subjects to predict whether other students would have answered each of these 48 questions correctly.[57]

The questions were randomly ordered for each subject and a time limit of one hour set for their completion. Randomisation was necessary in order to obtain an indication of each question's difficulty free of any contamination from an order effect.[58] A unique identity code was printed on each page which allowed for the identification of individual responses while maintaining confidentiality (see Appendix Three for more details of confidentiality considerations). The entire research instrument used in stage one is presented in Appendix Four.

### *4.4.7 Stage Two*

Stage two was administered two weeks after the completion of stage one.

All students studying in Beijing were randomly allocated to one of the three feedback conditions (noting that familiarity was manipulated within subjects) with a view to having equal cell sizes. This allowed for the collation of the materials

[57] Prior to administration, the 48 questions were piloted on five students who were auditing the course with a view to confirming that they varied in terms of difficulty (these students did not participate in the actual experimental administration).

[58] As noted below, it is necessary to establish the difficulty of each question in order to prepare the materials for stage two.

which were different across the three feedback conditions and unique within the individual specific feedback condition.[59]

Subjects were first reminded of the fact that two weeks prior to that date, they had completed a multiple choice questionnaire containing 48 questions. They were then informed that they would be predicting whether other students answered those same questions correctly. The initial instructions also reinforced the confidentiality of responses. Following the initial page of general instructions, there was a page outlining the use of the likelihood scales. At this time, the subjects were also given a verbal explanation on how to use the scales. The likelihood scales are discussed below.

Familiarity was operationalised by having the subjects predict the performance of a student selected at random from Guangzhou (unfamiliar) and also predict the performance of a student with whom they have worked in completing the group assignment for the course they were studying at the time (familiar). Students in Guangzhou study the same program as those in Beijing and at the time they completed the stage one materials, had completed the same topics as those students in Beijing. In this way, the assessor is aware of the general social category from which the person is drawn, but not the specific person.

Throughout their program, students complete a number of group assignments for which they have the opportunity to select who they will work with. Since students are free to select those who form part of their group, they generally select

[59] Feedback in the individual specific feedback condition was unique to each subject as the feedback provided was contingent on the individual whose performance was being predicted. This was not the case in the average group feedback condition where the feedback materials were the same for each subject.

those fellow students who they sit with in class and study with after class. This affords them the opportunity to develop an understanding of each other's competence similar to the opportunities afforded to auditors working in the same group on a number of clients.[60]

Since, by definition, subjects knew nothing about the unfamiliar student from Guangzhou, it was necessary to provide a description of this unfamiliar student. This student was described as follows:

> Zhang Hui (name has been changed) is a student studying accounting in the Guangzhou program. They have passed all subjects to date. At the time they completed the multiple choice questionnaire they had studied the same topics as you had studied when you completed the questionnaire.
> Although the name of this particular student has been changed in order to ensure confidentiality, you can be assured that this is an actual student studying in Guangzhou.

The above provided subjects with some general information enabling them to establish the social category from which the unknown student is drawn.[61]

As discussed in Appendix Three, in order to maintain confidentiality, subjects individually selected the familiar student (from two possibilities) and did not reveal this student's name. Since the subject was the only person aware of which of the two students' performance was being predicted, there existed the possibility that they might begin by assessing the performance of one person then subsequently change to predicting the performance of the other person. This might arise, for example, if subsequent to the commencement of the materials the

[60] All group work for the entire masters degree was completed and submitted prior to the administration of the experiment.

[61] The average group feedback that was provided is not gender specific. Therefore, the description of the person to be assessed is deliberately gender neutral.

subject believed that predicting the performance of the other person was easier. Subjects were told of the task to be completed prior to selecting the person to assess. This reduced the possibility that the subject would change the person being assessed during the administration of the materials.[62]

The 48 questions were divided into three blocks of 16 questions. The 48 questions were first ranked in order of difficulty (based on the answers/performance from stage one). Following Hirst *et al.* (1999), the questions were then systematically allocated to each of the three blocks by allocating the most difficult question to block one, the second most difficult question to block two, the third most difficult to block three, the fourth most difficult to block three, the fifth most difficult to block two, and so on. This was done to eliminate differences in the average difficulty across the three blocks. The materials were prepared such that the three blocks were not evident to the subjects.

For subjects in all conditions, the 48 questions were printed on separate pages (together with the correct answer) and were randomly ordered within each of the three, 16 question assessment blocks. Under each question and answer were places for subjects to indicate their assessment of whether the familiar and unfamiliar assessee would have answered the questions correctly. The order of the assessments (ie. familiar and unfamiliar) was randomised across subjects. To avoid unnecessary confusion, the order did not vary for each individual subject.

The likelihood scale, is presented in Exhibit 8 (over page).

[62] A bias exists independent of the time when the task requirements are revealed. Irrespective of when subjects are made aware of the task requirements, they might select students who systematically differ in some characteristic from other students (eg. familiarity, perceived intelligence, gender).

**Exhibit 8**
*Likelihood Scale*

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

This was repeated for Student B. That is, both predictions were made for each question before moving on to the next question.

This scale differs from that used in previous studies in one respect. Previous studies have first asked for a prediction then requested the subject to include their confidence (normally on a scale ranging from 50% to 100%). In the present study, the prediction and confidence in that prediction were collected concurrently on the same scale (see Section 4.4.3).

A distinction is sometimes made between an internal target event (of which the previous studies are an example) and an external target event (of which the present study is an example). The term target event is used to refer to the event for which probability is assigned, in the present study, the likelihood of answering the question correctly. An internal target event involves the judgement of something internal to the judge, for example, their confidence. An external target event involves the judgement of something external to the judge, for example, the performance of another person (see for example Schneider 1995). While these might be considered equivalent, measures of discrimination may be problematic when using an internal target event (see Sharp, Cutler, and Penrod 1988; Yaniv, Yates, and Smith 1991; Schneider 1995; Yates, Lee, Shinotsuka, Patalano, and

Sieck 1998). Yates *et al.* (1998) recommend that if possible, an external target event should be used. This recommendation was followed in the present study.

For those in one of the two feedback conditions, feedback was provided following each question. The operationalisation of feedback is discussed when each of the three treatment conditions are described.

Upon making predictions for all 48 questions, subjects completed a brief exit questionnaire. The exit questionnaire elicited the year of birth and gender of each participant. It also provided the means for conducting a manipulation check on the familiarity variable. For each of the two students whose performance was predicted, participants were asked to indicate their level of familiarity on a seven point scale anchored by 1 - 'not at all familiar' and 7 - 'very familiar'.

For practical reasons, subjects were informed that they should aim to complete the stage two materials within one hour. This may have introduced time pressure which is likely to have varied across treatment conditions. The implications of this are considered when the results are discussed.

The experiment was administered across five sessions over two days.[63] The subjects, who were randomly allocated to each treatment group, were advised in advance of which session they should attend. In one session (the first) all subjects in the no feedback condition completed the materials. Those in the average group feedback condition completed the materials in the second and third sessions. Those in the individual specific feedback condition completed the materials in the final two sessions. The more complex nature of the feedback conditions meant that they had to be administered in smaller groups. There was a break between the

[63] The author administered each session.

administration of each of the five sessions. Subjects were asked not to discuss the nature of the study with other students.[64]

The administration of the no feedback condition will be described first followed by the two feedback conditions.

### *4.4.8 No Feedback Condition*

As discussed above, subjects were first provided with background information about what they would be required to do in the second part of the study. The initial instructions also reinforced the confidentiality of responses. Following the initial page of general instructions, there was a page outlining the use of the likelihood scales. At this time, participants were also given a verbal explanation on how to use the scales.

The 48 questions, together with space to provide the likelihood assessments were presented to the subjects in one complete package. Subjects were instructed to complete the predictions in the order provided. Once the predictions for the 48 questions had been made, a brief general questionnaire was completed and the materials submitted.

### *4.4.9 Average Group Feedback Condition*

In the average group feedback condition, the same procedures as those explained for the no feedback condition were employed except for the immediate provision of average group feedback following the predictions for each question. After making the two predictions for the question, subjects gave the sheet on which the likelihood predictions were made to a research assistant who, in turn,

[64] This order was deliberate so as to minimise any resentful demoralisation associated with subjects becoming aware that they were receiving less information (or less desirable information) than other subjects.

gave the subject a sheet containing average group feedback. The feedback sheet also included the original likelihood assessments provided by the subject (placed on the sheet by the research assistant). The subject reviewed the feedback and when ready, returned the feedback sheet to the research assistant at which time they were provided with the next question.

Average group feedback was operationalised by providing statistics on what percentage of students responded A, B, C, or D for each question and whether the response was correct or incorrect. The statistics were based on the performance of the Guangzhou students.[65] An example of the feedback provided is presented in Exhibit 9.

#### *4.4.10 Individual Specific Feedback Condition*

The administration of the individual specific feedback condition used the same procedures as those for the average group feedback condition except for the fact that individual specific feedback was provided in the place of average group feedback.

Individual specific feedback was operationalised by indicating the response (A, B, C, or D) that the student whose performance was being predicted provided as an answer. An example of the feedback provided in this condition is presented in Exhibit 10.

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[65] Each question was analysed with a view to establishing whether there were any differences in the level of difficulty for Beijing students compared to Guangzhou students. Chi-Squared tests revealed that there were significant differences in the proportion of students answering correctly for four of the 48 questions. Two of the questions were more difficult in Beijing and two were more difficult in Guangzhou. For each question, there were no significant differences between the pooled performance and the performance in either Beijing or Guangzhou.

**Exhibit 9**

***Example of Average Group Feedback***

# Feedback

An audit of the financial report of Campbell Ltd is being conducted by an external auditor. The external auditor is expected to;

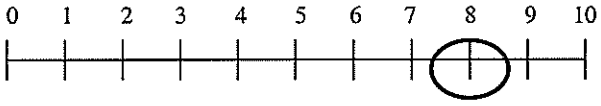
A Express an opinion as to the fairness of Campbell Ltd's financial report.
B Express an opinion as to the attractiveness of Campbell Ltd for investment purposes.
C Certify the correctness of Campbell Ltd's financial report.
D Make a 100% examination of Campbell Ltd's records.

**The correct answer is A**

85.7% of students answered **A** and were, therefore, **correct.**
0.0% of students answered **B** and were, therefore, **incorrect.**
10.7% of students answered **C** and were, therefore, **incorrect.**
3.6% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

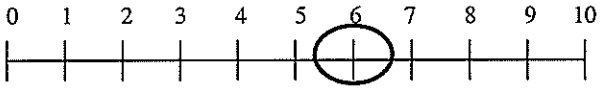
I am certain that the Student would have answered the question incorrectly




I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the Student would have answered the question incorrectly




I am certain that the student would have answered the question correctly

**Exhibit 10**
***Example of Individual Specific Feedback***

# Feedback

An audit of the financial report of Campbell Ltd is being conducted by an external auditor. The external auditor is expected to;

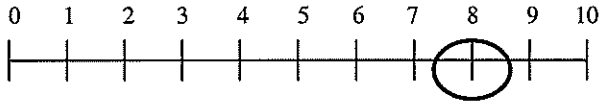
A Express an opinion as to the fairness of Campbell Ltd's financial report.
B Express an opinion as to the attractiveness of Campbell Ltd for investment purposes.
C Certify the correctness of Campbell Ltd's financial report.
D Make a 100% examination of Campbell Ltd's records.

**The correct answer is A**

The answer provided by student A was **C** and was therefore **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly

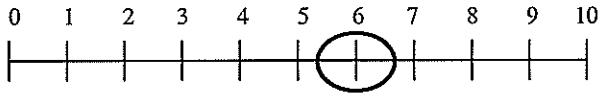



I am certain that the student would have answered the question correctly

The answer provided by student B was **D** and was therefore **incorrect.**

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the Student would have answered the Question incorrectly




I am certain that the student would have answered the question correctly

Recall that subjects selected one student to assess from a list of two (shown on a blue card accompanying the research materials). It was, therefore, necessary to prepare two sets of individual specific feedback materials in advance. These two sets corresponded to the two students from which the subject selected one to assess. The feedback materials that were not required were set aside (see

Appendix Three for more details). Subsequent to the administration of the experiment, an examination of the unused materials revealed that the correct materials were used in each case.

In order to facilitate the administration of the average group and individual specific feedback conditions, there was one research assistant for every two subjects.

A full copy of the research materials used in stage two is provided in Appendix Five.

## 4.5 RESULTS

As noted above, the study comprised two stages. In stage one, all students submitted the materials within the one hour time limit set. Four students failed to provide an answer for one to five of the questions (all from Beijing). For these students, a response (either A, B, C, or D) was randomly generated for each of the questions not answered. This assumes that the student did not know the answer and would have guessed.[66] All analyses were re-run excluding the performance of these four students with no change in the statistical inferences.[67]

As anticipated from the pilot testing, analysis of the responses to the 48 questions revealed that they varied in terms of difficulty with the number of students answering each question correctly ranging from 16.25% to 97.25%

[66] These four students were in addition to the one student who failed to answer more than half of the questions referred to in Section 4.4.4. This student's responses were not included in any part of the study.

(mean: 54.92%) in Beijing and 17.86% to 100% (mean: 55.58%) in Guangzhou. The questions were ranked in order of difficulty and grouped into three blocks of 16 questions as described in Section 4.4.7.[68]

As noted above, stage two, administered two weeks after the administration of stage one, involved subjects predicting the likelihood that two other students would have answered each of the 48 multiple choice questions correctly; one student they were familiar with and one student they were unfamiliar with. Of the 80 usable responses, 29 were in the no feedback condition, 25 in the individual specific feedback condition, and 26 in the average group feedback condition. This compares favourably with cell sizes from previous studies (Harrell 1977: 15; Hirst and Luckett 1992: 12; Bonner and Walker 1994: 7 to 8; Tuttle and Stokes 1998: 18; Hirst *et al.* 1999: 17; Briers, Chow, Hwang, and Luckett 1999: 15; Earley 2001: 34 to 40).

The familiarity manipulation check revealed that familiarity was successfully manipulated. There was a significant difference in the self reported familiarity levels for the two students whose performance was being predicted ($t$=14.774, one tailed $p$=.000). In addition, there were no significant differences in self reported

[67] To do this, it was necessary to remove the responses of any subject who predicted the past performance of any one of these four students. This resulted in the removal of four subjects' responses before the analyses were re-run.

[68] The grouping of the questions into three sub-blocks of sixteen was done on the basis of performance by students in Beijing only.

familiarity across feedback conditions (Familiar: $F$=0.692, $p$=.504; Unfamiliar: $F$=0.332, $p$=.719).[69]

On average (ie. across all experimental conditions), subjects exhibited poor prediction performance and were miscalibrated (overconfident) in their predictions. Descriptive statistics and confidence intervals are reported in Table 10.

**Table 10**
***Descriptive Statistics and Confidence Intervals***

| | Mean | s.d. | Min. | Max. | 95% Confidence Interval Lower | Upper |
|---|---|---|---|---|---|---|
| Calibration[1] | 0.2723 | 0.10563 | 0.07 | 0.51 | 0.2488 | 0.2958 |
| Confidence[2] | 0.2493 | 0.11391 | 0.01 | 0.48 | 0.2239 | 0.2746 |
| Percentage Correct | 57.7624 | 8.78046 | 36.17 | 72.41 | 55.8084 | 59.7164 |

[1] Calibration measures whether the decision maker knows when they are correct and when they are guessing. A score of zero represents perfect calibration. The higher the score, the poorer the calibration (see Section 4.4.3)
[2] Confidence measures whether the decision maker is overconfident (positive score) or underconfident (negative score).

These results are consistent with prior studies (eg. Solomon, Ariyo, and Tomassini 1985; Simnett 1996; Kennedy and Peecher 1997; Bamber and Ramsay 2000) and suggest, to the extent that the results can be generalised to auditors, that

[69] On a 7 point scale anchored by 1 - 'not at all familiar' and 7 - 'very familiar', the mean familiarity response for the familiar and unfamiliar student was 5.39 (range 3 to 7) and 2.26 (range 1 to 7) respectively. Most subjects (86.25%) rated the familiarity with the unfamiliar student at the midpoint (4) or below. Of those subjects who responded above the midpoint, seven subjects responded '5', three subjects responded '6' and one subject responded '7'. Sensitivity analysis was performed by first eliminating the one subject who responded '7', then the subjects who responded '6', and finally the subjects who responded '5'. In each case, there was no change to the statistical inferences.

auditors believe that the competence of those that they work with (or might work with) is greater than is actually the case. This further highlights the need to investigate interventions that might minimise overconfidence.

### *4.5.1 Hypotheses 1 and 2*

Recall that Hypotheses 1 and 2 predicted that there would be a relationship between the type of feedback provided and the level of familiarity when determining prediction performance. Specifically, individual specific feedback will be more useful when predicting the performance of someone familiar while average group feedback will be more useful when predicting the performance of someone unfamiliar.

Descriptive statistics by experimental condition are reported in Table 11 and presented graphically in Exhibit 11.

**Table 11**

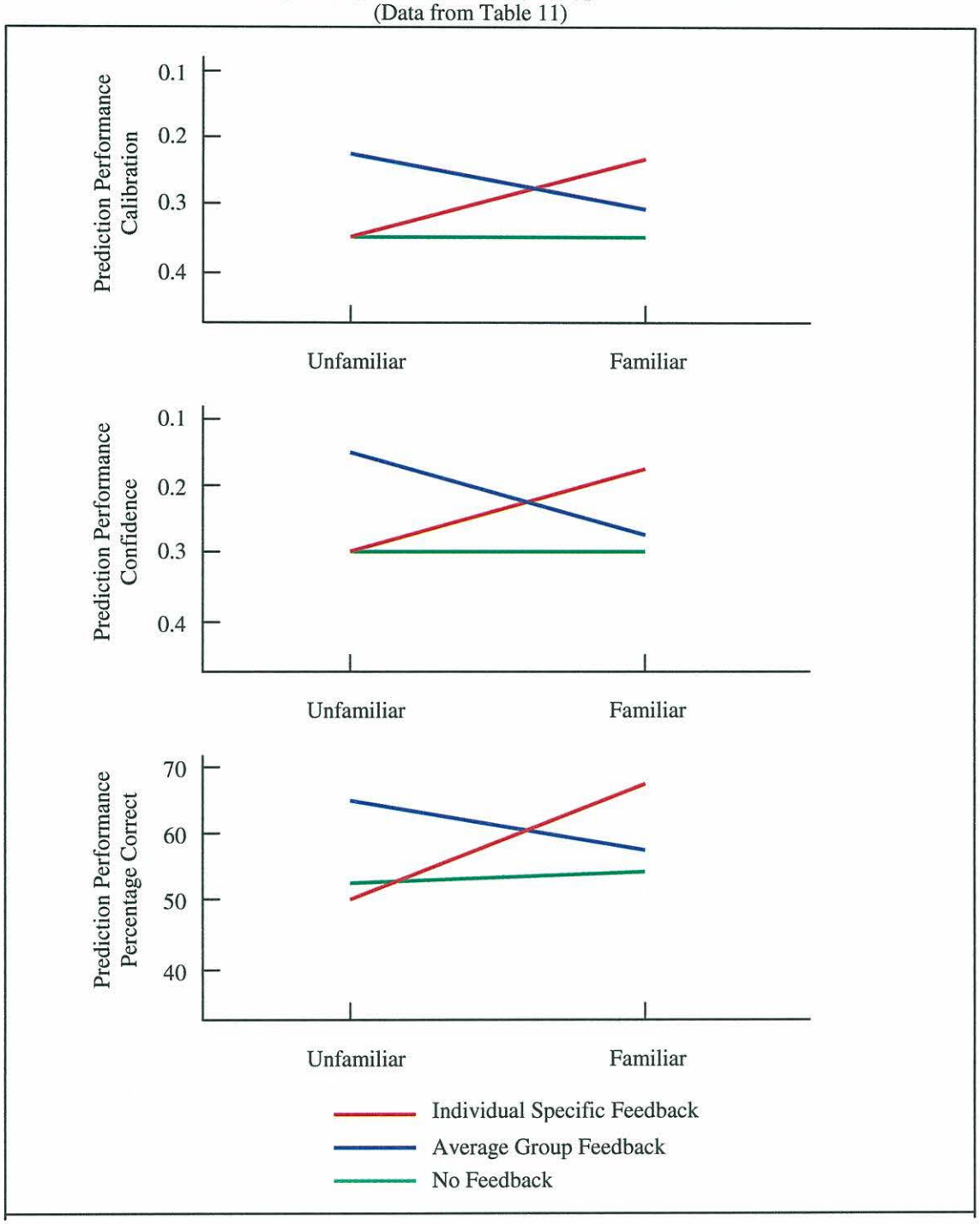
***Descriptive Statistics by Experimental Condition***

| | Familiar | | | | Unfamiliar | | | |
|---|---|---|---|---|---|---|---|---|
| | Mean | s.d. | min | Max | Mean | s.d. | min. | max. |
| Panel A - No Feedback (n=29) | | | | | | | | |
| Calibration | 0.3435 | 0.1322 | 0.10 | 0.54 | 0.3374 | 0.1080 | 0.17 | 0.57 |
| Confidence | 0.3033 | 0.1460 | 0.03 | 0.54 | 0.3034 | 0.1192 | 0.13 | 0.53 |
| Percentage Correct | 53.740 | 10.993 | 33.33 | 71.11 | 52.321 | 9.683 | 32.61 | 68.75 |
| Panel B – Individual Specific Feedback (n=25) | | | | | | | | |
| Calibration | 0.1998 | 0.0763 | 0.10 | 0.39 | 0.3304 | 0.1285 | 0.12 | 0.58 |
| Confidence | 0.1612 | 0.1004 | -0.02 | 0.38 | 0.3009 | 0.1488 | 0.06 | 0.58 |
| Percentage Correct | 68.408 | 9.9873 | 45.45 | 88.37 | 49.573 | 11.367 | 29.73 | 70.45 |
| Panel C – Average Group Feedback (n=26) | | | | | | | | |
| Calibration | 0.3133 | 0.0739 | 0.18 | 0.43 | 0.1933 | 0.0739 | 0.04 | 0.34 |
| Confidence | 0.2636 | 0.0963 | 0.03 | 0.39 | 0.1492 | 0.1019 | -0.05 | 0.34 |
| Percentage Correct | 56.565 | 9.1255 | 41.30 | 77.08 | 66.891 | 7.8150 | 47.92 | 82.22 |

**Exhibit 11**

***Graphic Depiction of Results for Hypotheses 1 and 2***

(Data from Table 11)




Taken together, Hypotheses 1 and 2 predict a significant interaction between feedback type and level of familiarity. Consistent with this prediction, a 3x(2) *ANOVA* revealed a significant feedback by familiarity interaction (F=46.922, *p*=.000*)* when using calibration as the dependent variable. Consistent results were

revealed when confidence (F=32.339, $p$=.000) and percentage correct (F=41.995, $p$=.000) were analysed.[70]

In order to test Hypotheses 1a and 1b, pairwise comparisons using the Tukey HSD procedure were performed. The results of this analysis for all three dependent variables are reported in Table 12.

**Table 12**
***Hypotheses 1a and 1b Tukey HSD Pairwise Comparisons***

| | Difference in Mean (Absolute Value) | | |
|---|---|---|---|
| | Individual Specific Feedback | Average Group Feedback | No Feedback |
| Panel A - Familiar with Assessee (Hypothesis 1a) | | | |
| Individual Specific Feedback | | | |
| Calibration | - | | |
| Confidence | - | | |
| Percentage Correct | - | | |
| Average Group Feedback | | | |
| Calibration | 0.1135** | - | |
| Confidence | 0.1024* | - | |
| Percentage Correct | 11.834** | - | |
| No Feedback | | | |
| Calibration | 0.1437** | 0.0302 | - |
| Confidence | 0.1421** | 0.0397 | - |
| Percentage Correct | 14.668** | 2.825 | - |
| Panel B - Unfamiliar with Assessee (Hypothesis 1b) | | | |
| Individual Specific Feedback | | | |
| Calibration | - | | |
| Confidence | - | | |
| Percentage Correct | - | | |
| Average Group Feedback | | | |
| Calibration | 0.1371** | - | |
| Confidence | 0.1517** | - | |
| Percentage Correct | 17.318** | - | |
| No Feedback | | | |
| Calibration | 0.0070 | 0.1441** | - |
| Confidence | 0.0025 | 0.1542** | - |
| Percentage Correct | 2.748 | 14.570** | - |

* Significant at $p<0.05$
** Significant at $p<0.01$

[70] The main effect for feedback type was significant for all three dependent variables (Calibration: $F$=7.370, $p$=.001; Confidence: $F$=6.139, $p$=.003; Percentage Correct: $F$=8.363, $p$=.001). The main effect for familiarity was significant when percentage correct was used ($F$=6.688, $p$=.012) but not when calibration ($F$=0.021, $p$=.886) or confidence ($F$=0.449; $p$=.505) were used.

Consistent with Hypothesis 1a, Table 11 and Table 12 reveal that when the assessor was familiar with the assessee, those receiving individual specific feedback performed better than those receiving either average group feedback or no feedback. The results also support Hypothesis 1b. When the assessor was unfamiliar with the assessee, those receiving average group feedback performed better than those receiving either individual specific feedback or no feedback. The results were consistent across all three dependent variables.

In order to examine Hypothesis 2, for each subject the accuracy when predicting the performance of the familiar student was compared to accuracy when predicting the performance of the unfamiliar student. The results from this analysis, using paired samples *t*-tests, are reported in Table 13.

**Table 13**
***Hypotheses 2a and 2b Paired Samples T-Tests***

| | Mean | | | |
|---|---|---|---|---|
| | Familiar | Unfamiliar | *t* statistic | Significance† |
| Panel A - No Feedback (n=29) | | | | |
| Calibration | 0.3435 | 0.3374 | 0.410 | .685 |
| Confidence | 0.3033 | 0.3034 | 0.008 | .994 |
| Percentage Correct | 53.740 | 52.321 | 0.795 | .433 |
| Panel B - Individual Specific Feedback (n=25) | | | | |
| Calibration | 0.1998 | 0.3304 | 6.301 | .000 |
| Confidence | 0.1612 | 0.3009 | 5.376 | .000 |
| Percentage Correct | 68.408 | 49.573 | 7.304 | .000 |
| Panel C - Average Group Feedback (n=26) | | | | |
| Calibration | 0.3133 | 0.1933 | 6.581 | .000 |
| Confidence | 0.2636 | 0.1492 | 5.106 | .000 |
| Percentage Correct | 56.565 | 66.891 | 4.468 | .000 |

† Two tailed significance

These results support Hypotheses 2a and 2b. Those subjects receiving average group feedback (individual specific feedback) exhibited superior judgement when predicting the performance of a student they were unfamiliar (familiar) with compared to a student with whom they were familiar (unfamiliar).

### *4.5.2 Additional Analysis*

To further understand the results reported above, performance was analysed across the three assessment blocks. Descriptive statistics for each of the three assessment blocks are presented in Table 14.

**Table 14**

***Descriptive Statistics Across the Three Assessment Blocks***

| | Familiar | | | | Unfamiliar | | | |
|---|---|---|---|---|---|---|---|---|
| | Mean | s.d. | min. | max. | Mean | s.d. | min. | max. |
| Panel A - Questions 1 to 16 | | | | | | | | |
| No Feedback (n=29) | | | | | | | | |
| Calibration | 0.3713 | 0.1387 | 0.13 | 0.61 | 0.3756 | 0.1391 | 0.10 | 0.62 |
| Confidence | 0.3024 | 0.1835 | -0.06 | 0.61 | 0.3491 | 0.1544 | 0.10 | 0.62 |
| Percentage Correct | 56.620 | 13.203 | 33.33 | 80.00 | 49.365 | 15.749 | 10.00 | 76.92 |
| Individual Specific Feedback (n=25) | | | | | | | | |
| Calibration | 0.3000 | 0.0927 | 0.11 | 0.47 | 0.3500 | 0.1273 | 0.09 | 0.58 |
| Confidence | 0.2510 | 0.1185 | -0.05 | 0.43 | 0.3045 | 0.1534 | 0.02 | 0.58 |
| Percentage Correct | 59.230 | 11.350 | 42.86 | 84.62 | 50.606 | 15.950 | 23.08 | 81.25 |
| Average Group Feedback (n=26) | | | | | | | | |
| Calibration | 0.3625 | 0.1204 | 0.19 | 0.61 | 0.2820 | 0.1049 | 0.08 | 0.50 |
| Confidence | 0.2874 | 0.1452 | 0.06 | 0.61 | 0.1921 | 0.1277 | -0.02 | 0.50 |
| Percentage Correct | 56.534 | 13.882 | 31.25 | 75.00 | 62.735 | 12.580 | 37.50 | 93.33 |
| Panel B - Questions 17 to 32 | | | | | | | | |
| No Feedback (n=29) | | | | | | | | |
| Calibration | 0.3545 | 0.1561 | 0.12 | 0.67 | 0.3269 | 0.1467 | 0.08 | 0.64 |
| Confidence | 0.2612 | 0.1751 | -0.03 | 0.67 | 0.2317 | 0.1845 | -0.12 | 0.64 |
| Percentage Correct | 57.265 | 15.856 | 18.75 | 81.82 | 58.590 | 16.216 | 14.29 | 86.67 |
| Individual Specific Feedback (n=25) | | | | | | | | |
| Calibration | 0.2200 | 0.0903 | 0.07 | 0.43 | 0.3673 | 0.1642 | 0.13 | 0.79 |
| Confidence | 0.1405 | 0.1212 | -0.07 | 0.41 | 0.2778 | 0.2358 | -0.14 | 0.79 |
| Percentage Correct | 68.296 | 12.529 | 46.67 | 93.33 | 50.854 | 19.351 | 0.00 | 90.91 |
| Average Group Feedback (n=26) | | | | | | | | |
| Calibration | 0.3592 | 0.1314 | 0.02 | 0.77 | 0.2344 | 0.0933 | 0.08 | 0.43 |
| Confidence | 0.2387 | 0.1301 | -0.08 | 0.51 | 0.1305 | 0.1438 | -0.16 | 0.42 |
| Percentage Correct | 58.813 | 12.191 | 31.25 | 75.00 | 67.537 | 12.712 | 43.75 | 87.50 |
| Panel C - Questions 33 to 48 | | | | | | | | |
| No Feedback (n=29) | | | | | | | | |
| Calibration | 0.4330 | 0.1546 | 0.14 | 0.74 | 0.4261 | 0.1125 | 0.24 | 0.73 |
| Confidence | 0.3465 | 0.1940 | -0.01 | 0.74 | 0.3252 | 0.1543 | 0.03 | 0.68 |
| Percentage Correct | 47.367 | 17.000 | 15.38 | 81.25 | 49.060 | 13.069 | 25.00 | 81.25 |
| Individual Specific Feedback (n=25) | | | | | | | | |
| Calibration | 0.2335 | 0.1244 | 0.08 | 0.55 | 0.4220 | 0.1083 | 0.21 | 0.68 |
| Confidence | 0.0920 | 0.1943 | -0.20 | 0.55 | 0.3205 | 0.1567 | 0.03 | 0.64 |
| Percentage Correct | 78.103 | 19.952 | 20.00 | 100.0 | 46.923 | 14.812 | 22.22 | 84.62 |
| Average Group Feedback (n=26) | | | | | | | | |
| Calibration | 0.3536 | 0.1127 | 0.10 | 0.61 | 0.2546 | 0.0985 | 0.09 | 0.44 |
| Confidence | 0.2647 | 0.1563 | -0.01 | 0.61 | 0.1252 | 0.2031 | -0.17 | 0.44 |
| Percentage Correct | 54.092 | 16.592 | 25.00 | 81.25 | 70.849 | 18.224 | 37.50 | 100.0 |

Analysing the results for each of the three blocks of 16 questions revealed a significant feedback type by familiarity interaction when calibration was used as the dependent variable (Block 1: $F$=5.601, $p$=.005; Block 2: $F$=25.284, $p$=.000; Block 3: $F$=23.275, $p$=.000). Similar results were revealed when confidence and percentage correct were used as dependent variables.[71]

The mean performance across each of the three feedback conditions was compared for each of the three assessment blocks. The results from this analysis are reported in Table 15.

**Table 15**

***Differences in Performance For Each Assessment Block Using Tukey HSD Procedure***

| | Difference in Mean (Absolute Value) | | | | | |
|---|---|---|---|---|---|---|
| | Familiar | | | Unfamiliar | | |
| | ISF | AGF | NF | ISF | AGF | NF |
| Panel A - Calibration | | | | | | |
| Questions 1-16 | | | | | | |
| Individual Specific Feedback (ISF) | - | | | - | | |
| Average Group Feedback (AGF) | .0625 | - | | .0680 | - | |
| No Feedback (NF) | .0713 | .0088 | - | .0256 | .0936* | - |
| Questions 17-32 | | | | | | |
| Individual Specific Feedback (ISF) | - | | | - | | |
| Average Group Feedback (AGF) | .1392* | - | | .1329* | - | |
| No Feedback (NF) | .1345* | .0047 | - | .0404 | .0925* | - |
| Questions 33-48 | | | | | | |
| Individual Specific Feedback (ISF) | - | | | - | | |
| Average Group Feedback (AGF) | .1201* | - | | .1674* | - | |
| No Feedback (NF) | .1995* | .0794 | - | .0041 | .1715* | - |

* Significant at $p$<0.05

Table continues over page

[71] For confidence; (Block 1: $F$=6.870, $p$=.002; Block 2: $F$=12.838, $p$=.000; Block 3: $F$=19.598, $p$=.000). For percentage correct; (Block 1: $F$=5.769, $p$=.005; Block 2: $F$=15.890, $p$=.000; Block 3: $F$=27.477, $p$=.000).

**Table 15 (cont.)**

***Differences in Performance For Each Assessment Block Using Tukey HSD Procedure***

| | Difference in Mean (Absolute Value) | | | | | |
|---|---|---|---|---|---|---|
| | Familiar | | | Unfamiliar | | |
| | ISF | AGF | NF | ISF | AGF | NF |
| Panel B - Confidence | | | | | | |
| Questions 1-16 | | | | | | |
| Individual Specific Feedback (ISF) | - | | | - | | |
| Average Group Feedback (AGF) | .0364 | - | | .1124* | - | |
| No Feedback (NF) | .0514 | .0150 | - | .0446 | .1570* | - |
| Questions 17-32 | | | | | | |
| Individual Specific Feedback (ISF) | - | | | - | | |
| Average Group Feedback (AGF) | .0982* | - | | .1473* | - | |
| No Feedback (NF) | .1207* | .0225 | - | .0461 | .1012 | - |
| Questions 33-48 | | | | | | |
| Individual Specific Feedback (ISF) | - | | | - | | |
| Average Group Feedback (AGF) | .1727* | - | | .1953* | - | |
| No Feedback (NF) | .2545* | .0818 | - | .0047 | .2000* | - |
| Panel C - Percentage Correct | | | | | | |
| Questions 1-16 | | | | | | |
| Individual Specific Feedback (ISF) | - | | | - | | |
| Average Group Feedback (AGF) | 2.696 | - | | 12.129* | - | |
| No Feedback (NF) | 2.610 | 0.086 | - | 1.241 | 13.370* | - |
| Questions 17-32 | | | | | | |
| Individual Specific Feedback (ISF) | - | | | - | | |
| Average Group Feedback (AGF) | 9.483* | - | | 16.683* | - | |
| No Feedback (NF) | 11.031* | 1.548 | - | 7.736 | 8.947 | - |
| Questions 33-48 | | | | | | |
| Individual Specific Feedback (ISF) | - | | | - | | |
| Average Group Feedback (AGF) | 24.011* | - | | 23.926* | - | |
| No Feedback (NF) | 30.736* | 6.725 | - | 2.137 | 21.789* | - |

* Significant at $p<0.05$

Table 15 reveals that for assessments of familiar students, differences across feedback conditions are more pronounced in the second and third blocks. There were no significant differences for the first block of sixteen questions. This is to be expected as feedback takes time to influence performance. For unfamiliar students, the results were not as consistent. Differences (with varying degrees of significance and for different measures of performance) were evident for all three blocks. Average group feedback appears to have a more immediate benefit, especially for percentage correct.

Each subject's change in performance across the three assessment blocks was also analysed. The results are presented in Table 16.

**Table 16**
***Pairwise Comparisons Using Paired Samples T-Tests***
(italicised changes indicate an improvement in performance)

| | Familiar | | Unfamiliar | |
|---|---|---|---|---|
| | Performance change between blocks 1 to 2 | Performance change between blocks 2 to 3 | Performance change between blocks 1 to 2 | Performance change between blocks 2 to 3 |
| Panel A - Calibration | | | | |
| No Feedback | *0.0168* | 0.0785* | *0.0487* | 0.0992** |
| Individual Specific Feedback | *0.0800*** | 0.0135 | 0.0173 | 0.0547 |
| Average Group Feedback | *0.0033* | *0.0056* | *0.0476* | 0.0202 |
| Panel B - Confidence | | | | |
| No Feedback | *0.0412* | 0.0851* | *0.1174*** | 0.0935* |
| Individual Specific Feedback | *0.1105*** | *0.0485* | *0.0267* | 0.0427 |
| Average Group Feedback | *0.0487* | 0.0260 | *0.0616* | 0.0053 |
| Panel C - Percentage Correct | | | | |
| No Feedback | *0.645* | 9.898* | *9.225*** | 9.530* |
| Individual Specific Feedback | *9.066*** | *9.807** | *0.248* | 3.931 |
| Average Group Feedback | *2.280* | 4.721 | *4.802* | *3.312* |

* Significant at $p<0.05$ (two tailed)
** Significant at $p<0.01$ (two tailed)

For those subjects receiving individual specific feedback, there was an improvement in performance between blocks one and two when predicting the performance of a familiar student. There was generally no improvement between blocks two and three.[72] Those subjects receiving average group feedback exhibited neither significant improvement or deterioration in performance across the three blocks. In both familiarity conditions, those receiving no feedback exhibited significantly worse performance in the final block of sixteen questions

[72] Time pressure may have meant that subjects made less use of feedback in the third block than was the case in the first two blocks.

(compared to block two). This might be explained in terms of diminished motivation and effort directed towards the latter stages of the task.

In summary, outcome feedback has the potential to improve accuracy and calibration when predicting the future performance of others. However, the merits of individual specific feedback as compared to average group feedback are contingent on the relationship between assessee and assessor. The implications of this finding are discussed in the following section.

## 4.6 Summary

The present study drew on the findings from Study One to examine the way in which outcome feedback might be used to improve the assessment of another auditor's competence. Prior studies (eg. Kennedy and Peecher 1997) have shown that auditors are overconfident in the competence of another auditor. Consistent with this finding, the present study also revealed results demonstrating a propensity towards overconfidence.

Study One found that when assessing the competence of another auditor, auditors rely heavily on an initial reference point which is contingent on the relationship they have with the person being assessed. This suggested that the accuracy of any competence assessment is dependent on the accuracy of the initial reference point. The present study drew on this finding to argue that outcome feedback might be effective in reducing the level of overconfidence by improving the accuracy of the initial reference point. However, given that the initial reference point employed will be contingent on the assessor-assessee relationship, the effectiveness of different types of outcome feedback was also argued to be contingent on the assessor-assessee relationship.

The results revealed that the provision of outcome feedback can be effective in reducing overconfidence. Individual specific feedback was effective in reducing overconfidence when predicting the performance of a colleague with whom the assessor has previously worked. That is, a colleague whose specific competence is believed to be known to the assessor. Average group feedback was effective in reducing overconfidence when predicting the performance of a colleague with whom the assessor is not familiar, but is aware of the general characteristics of the group from which the person is drawn.

In practice, average group feedback is easier to provide than individual specific feedback. Average group feedback can be based on a representative sample of auditors within the category in question. Individual specific feedback, by definition, must relate to each of the firm's auditors. For some work, the auditor may not have previously performed such a task making the provision of individual specific feedback difficult.

However, the effective use of average group feedback would require a change in the way in which workpaper reviews are performed. That is, someone who is unfamiliar with the auditor whose work is being reviewed would need to be involved. Greater use of groups when planning the audit and conducting workpaper review suggest that this might be possible. Future research extending this preliminary study and addressing the limitations noted below will help establish whether this change is justified.

These results should, however, be interpreted in light of the fact that some of the decisions made in the design and administration of the study may have threatened internal and external validity.

Recall from Section 4.4.7 that the within subjects manipulation of familiarity was operationalised by having subjects assess whether the first student would have correctly answered the question and then immediately assess whether the second student would have correctly answered the same question. This was repeated for all 48 questions. This operationalisation may have encouraged the development of a hybrid strategy different from that identified in Study One and different to that upon which the hypotheses are based. If this was the case, it would reduce the differences between the experimental conditions thereby working against the hypotheses. The alternative of having subjects first make 48 predictions for one student then repeat the entire exercise for the second student would have also provided the potential for a change in strategy. In these circumstances, the strategy used for the first student would be so salient (since it was used 48 times) that the subject would be unlikely to change the strategy for the second student. Under these circumstances, the differences for average group feedback would be amplified and the differences for individual specific feedback would be minimised.

While the hypotheses were supported in the face of design decisions working against the hypothesised effect, the potential change in strategy could possibly mean that the reasons underlying the reported effects are different than those discussed in the chapter.

Of additional concern in this study is the operationalisation of feedback and familiarity. The feedback that was provided in the present study is different to that which could be provided in a more natural setting. That is, it would not be feasible to provide dichotomous feedback on many elements of an audit which is characterised by ill-structured tasks with no objective correct answer. Future

research could usefully examine the feasibility and cost effectiveness of different types of feedback using the present study's results as a foundation.

While familiarity was manipulated in the present study, this familiarity is different than that which develops in a natural setting. A more externally valid manipulation could be introduced when audit practitioners are used as subjects.

Feedback was also provided immediately following each judgement and performance measures were only taken in the presence of the feedback manipulation. Performance improvements in the presence of immediate feedback may be transitory. That is, there will be no long term learning and the transitory effects will dissipate as the feedback is removed (Schmidt and Bjork 1992, Goodman 1998). In addition, frequent provision of feedback may limit long term learning (Schmidt 1991). As was discussed in the previous section, in the present study, changes in performance were not consistent across the entire experiment. Future research could examine the durability of the performance improvements identified in this study.

This study has also not considered many of the behavioural consequences of feedback. That is, it takes an informational perspective without considering such factors as feedback source, nature of the feedback message, and individual decision maker differences (see Luckett and Eggleton 1991). Future research in these areas is necessary in order to understand the practical implications of introducing suggested feedback interventions.

As a final thought, it should be remembered that even though different types of outcome feedback might be effective in reducing overconfidence, there remains significant overconfidence. This overconfidence has important implications for the effectiveness of the audit process. The following chapter considers the

practical implications of the findings from Study One and Study Two taken together and further discusses future research directions.

# Chapter Five
# Summary and Conclusion

## 5.1 Introduction

This chapter summarises the research findings of the two studies reported in this dissertation and discusses their implications for practice and future research. The chapter begins by restating the motivation of the study and summarises the findings. This is followed by a consideration of the implications of the study. The final section considers limitations in addition to those stated in earlier chapters and highlights directions for future research.

## 5.2 Motivation and Research Findings

In order for the review process to be an effective and efficient quality control mechanism, reviewers must be able to accurately assess the competence of workpaper preparers. Failure to accurately assess the preparer's competence can lead to efficiency and, more importantly, effectiveness losses. Motivated by the fact that prior literature indicates that auditors are unable to accurately and objectively assess the competence of their colleagues (Kennedy and Peecher 1996; Tan and Jamal 2001), this dissertation first described the process by which auditors assess the competence of other auditors and then examined an intervention that may improve these judgements.

Previous research in both the accounting and psychology literatures suggest that auditors are overconfident in the assessment of their colleagues' competence. If this is the case, it is likely that the review process is not as effective as audit

firms may believe. Given that reviewers are sensitive to the *perceived* competence of the preparer (eg. Gibbins and Trotman 2002), overstating the preparer's competence will result in the workpaper review being less comprehensive than should be the case. This increases the chance of errors not being detected and audit failure. Improving the accuracy of these assessments is important for the effective application of the review process and performance of the audit as a whole.

In order to improve judgements, it is first necessary to understand how those judgements are made. Prior studies, however, have only speculated on the process underlying the assessment of another auditor's competence (eg. Nickerson *et al.* 1987; Fussell and Krauss 1992). Study One overcame this impediment by investigating the process by which auditors assess the competence of other auditors. Study Two used these results to investigate a possible intervention that might be employed to reduce the level of overconfidence in competence assessments.

The results from Study One, which employed verbal protocol methodology while manipulating variables of interest, revealed that auditors rely heavily on an initial reference point when making assessments of another auditor's competence. There is very little additional processing. This highlights the importance of the accuracy of the initial reference point in making accurate competency judgements.

Previous studies had suggested that the anchoring and adjustment heuristic might be the process underlying the assessment of another person's competence (Fussell and Krauss 1992; Hinds 1999). The processes documented in Study One exhibited elements of anchoring and adjustment, however, this heuristic does not explain the entire process.

The results also revealed that there were a variety of initial reference points employed, and that there was some consistency between the assessor-assessee relationship and the initial reference point employed. This relationship was strongest for the assessments of a peer's competence. When seniors assessed the competence of a peer with whom they had previously worked, they relied on their perception of this peer's overall competence as an initial reference point in determining whether they would be competent to complete the specific task in question. When assessing the competence of a peer with whom the assessor had not previously worked, seniors relied on their perception of the competence of seniors in general when determining whether this senior would be competent to complete the specific task in question. While there was some consistency between assessor - assessee relationship and initial reference point employed, these results were not statistically significant.

Study Two investigated an intervention that has the potential to improve the accuracy of assessments of another auditor's competence. Given the relative strength of the results in Study One for the assessment of a peer compared to a subordinate, Study Two focused on peer assessments.

Study Two noted that the audit environment is characterised by asymmetric feedback where positive behaviours receive more attention than negative behaviours. In workpaper review, above average performance is almost always presented to the reviewer by way of specific notes in the workpapers. If there is below average performance, its identification will depend on the ability of the reviewer as it will not be explicitly noted in the workpapers. Perceptions of the competence of individuals and generic groups are likely to, as a consequence, be overstated. Given that auditors, when assessing the competence of their

colleagues, rely heavily on these perceptions with little subsequent adjustment, this is likely to be one reason underlying the overconfidence identified in earlier studies. Study Two explored whether more balanced feedback on past performance can reduce overconfidence.

Study Two, using a behavioural experiment, examined whether outcome feedback might reinforce the decision process involved and allow for more accurate inputs into that process (particularly a more accurate initial reference point). The results revealed that outcome feedback relating to the average performance of the group from which the assessee is drawn was effective in reducing overconfidence when assessing the competence of a peer with whom the assessor was unfamiliar but not when assessing a peer with whom they were familiar. Outcome feedback that related to the specific performance of the peer being assessed was effective in reducing overconfidence when assessing the competence of a familiar peer but not an unfamiliar peer. While it might be suggested that feedback should be as specific as possible, the results revealed that this is not always the case.

## 5.3 Implications

While the research reported in this dissertation was exploratory, the results suggest possible practical implications which should be considered in light of ongoing changes to the review process and explored in future studies.

If supported by further research work, the results reported in this dissertation and those reported in previous studies suggest that audit firms should exercise caution when placing considerable reliance on the review process. Reviewers who overstate a preparer's competence may not conduct a sufficiently extensive

review. They also suggest that reviewers should rely on information other than, or in addition to, the workpapers when updating their perceptions of the preparer as these perceptions are likely to be biased.

The results also provide some guidance to audit firms on the type of information they might provide to their reviewers and the structure of the review process in order to more fully realise its quality control objective. Feedback on how auditors have performed on previous jobs could usefully be provided to review staff. Similarly, the provision of information on the competency of auditors in general would be useful if accompanied by the inclusion of reviewers who were unfamiliar with the previous work of the auditor whose work is being reviewed. Audit firms may already be moving in this direction. Tan and Jamal (2001) report that one of the 'big-five' firms involved in their study evaluates the performance of subordinates, and managers meet to discuss these evaluations.

This feedback should, however, be objective. One potential way in which to improve the level of objectivity is to base feedback on performance during internal staff training sessions or performance in external professional examinations.

The results reported in this dissertation also have implications for other areas of the audit function. In an environment where auditors overstate the competence of their colleagues, they are likely to appoint staff to audit tasks that they are ill-equipped to perform. Given that the extent of review is likely to be commensurate with the overstated perceptions of competence, fieldwork deficiencies may not be detected and audit failure could potentially follow. The competitive nature of first securing employment with, and then progressing within, audit firms means that junior staff may see this as an opportunity to impress and be reluctant to indicate

their inability to understand and appropriately complete the task.

Audit firms should be cautious when planning the audit to ensure that underqualified staff are not allocated to work they cannot perform and that staff are appropriately supervised. The increasing use of teams to plan the audit provides the potential to improve these judgements. This is especially the case if the team is provided with objective competency information and includes auditors unfamiliar with the staff who are being allocated to particular parts of the audit.

## 5.4 Limitations and Future Research Directions

The results and implications discussed above should, however, be considered in light of the limitations that were noted in Chapters Three and Four. In addition, it should be remembered that Study One examined judgements made by seniors and Study Two used graduate students to study the implications of feedback. It remains a future research question whether these results can be generalised to audit staff at different hierarchical levels. In addition, given the results of Study One, Study Two only focussed on peer assessments. These are not the most common assessments made in practice, and research attention should return to understanding the factors that influence the selection of initial reference points in situations where a superior is assessing a subordinate. This, in turn, will allow research along the lines of Study Two investigating interventions that can improve the assessment of a subordinate's competence.

This study proceeds on the premise that overstating preparer competence leads to ineffective reviews. It might be that superior reviewers have developed coping mechanisms that allow them to subconsciously compensate for their overconfident assessments. That is, their belief about the appropriate level and

extent of workpaper review at each level of competence may be greater than is normatively correct. In this situation, even though they may overstate competence, the corresponding review is appropriate given actual competence. Bamber (1983) reports results suggesting that this could be the case. Future research could usefully investigate the practical implications of overstating competence.

Future research could also investigate how auditors assess the competence of client management and personnel. Overstating client management and personnel competence might lead to understated inherent risk assessments or mean that auditors are overly accepting of client and staff explanations in response to their queries. Again, it is possible that auditors develop coping mechanisms in this regard.

Also, social interactions in which auditors obtain an understanding of each others' competence might be influenced by cultural factors. Future research could usefully investigate the influence of these cultural factors on competence assessments and any intervention directed towards improving these assessments.

Finally, many of the implications of this dissertation's results relate to the use of teams in conducting workpaper review and audit planning activities. Such a benefit, however, would depend on team members being able to identify and appropriately weight the contributions of team members. Research suggests that team members may not be capable of identifying and appropriately weighting different contributions. Should this be the case in an audit setting, the use of teams in the way described in this and previous chapters may not overcome the identified deficiencies in individual judgements. The resolution of this issue awaits future investigation.

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# Appendices

# Appendix One
## Summary of Accounting and Auditing Studies Employing Verbal Protocol Methodology

Despite the advantages of verbal protocol methodology in studying the process by which judgements in accounting and auditing are made (eg. Payne *et al.* 1978; Biggs *et al.* 1993), it is not a methodology that has been widely used. These studies, which have investigated a range of issues, are summarised on the following two pages. Although not all of the studies summarised have employed the procedures suggested by Ericsson and Simon (1993) to address limitations associated with protocol methodology (see Section 3.3.1 in Chapter Three), for completeness, they are still covered.

In addition, some authors have presented a review of the accounting research employing protocol analysis (Klersey and Mock 1989), used protocol analysis to investigate the validity of protocol data (eg. Boritz 1986; Boritz, Gaber, and Lemon 1987), or compared models derived from different process tracing methodologies (eg. linear regression and verbal protocol analysis) (Anderson and Potter 1998).

Early protocol studies in accounting and auditing were largely concerned with describing judgement processes within the context of general theories of decision making such as those proposed by Newel and Simon (1972) and Einhorn and Hogarth (1981) (eg. Biggs 1984; Biggs, Messier and Hanson 1987; Biggs and Mock 1988). Recent studies, however, have interpreted protocol data in relation to more specific theories of judgement and decision making that are implicitly embedded within general theories (eg. Jamal *et al.* 1995; Mock *et al.* 1997; and Bedard *et al.* 1998).

| Paper | General Research Issue | Number of subjects |
|---|---|---|
| Lewis, Shields, and Young (1983)[†] | The procedures used when deciding whether to investigate product specification variances. | 10 |
| Biggs and Mock (1983) | The cognitive processes by which internal control evaluation is carried out and subsequently used to make audit scope decisions. | 4 |
| Biggs (1984) | The way in which financial analysts assess the ability of a firm to generate future profits. | 11 |
| Campbell (1984) | Whether, and if so how, particular financial statement elements are used by loan officers to evaluate a small closely held company. | 4 |
| Bouwman (1985)[†] | The process used to evaluate a firm's financial position including the identification of underlying problems. | 18[3] |
| Day (1986) | What information in an annual report and financial statements is used by analysts, and to what extent? | 15 |
| Trotman and Zimmer (1986) | Are loan officers fixated on accounting related variables or do they attempt to adjust these variables consistent with anchoring and adjustment? | 10 |
| Biggs, Messier, and Hanson (1987) | The decision processes used by computer audit specialists when evaluating EDP controls. | 3 |
| Bouman, Frishkoff, and Frishkoff (1987) | The procedures used by financial analysts when conducting an initial screening of potential investments. | 12 |
| Biggs, Mock, and Watkins (1988) | The way in which seniors and managers conduct analytical review and use the results thereof to revise audit programs. | 4 |
| Biggs and Mock (1988) | The criteria that auditors use when evaluating internal controls. | 4 |
| Peters (1990) | The judgement process and the decisions made when attempting to identify possible audit risks. | 2 |
| Bedard and Biggs (1991) | The way in which auditors conduct an analytical review and the factors that inhibit performance. | 21 |

| Paper | General Research Issue | Number of Subjects |
|---|---|---|
| Jamal, Johnson, and Berryman (1995) | The role of problem representation upon a partner's ability to detect financial statement fraud. | 24[1] |
| Mock, Wright, Washington, and Krishnamoorthy (1997) | The way in which auditors represent uncertainty and aggregate audit evidence. | 12 |
| Bedard, Biggs, and Maroney (1998) | The source of process gains and losses when interacting groups perform analytical review. | 8[2] |
| Bierstaker, Bedard, and Biggs (1999) | The factors contributing to, and the impact upon performance of, shifts in problem representations while conducting analytical review. | 12 |
| Mock, Wright, Srivastava, and Lu (1999) | The way in which multiple hypotheses are framed by auditors and the influence of risk thereon. | 9 |

[†] The primary purpose of these papers was to illustrate the protocol technique and demonstrate the benefits thereof.
[1] Each participant completed four cases thereby resulting in 96 completed protocols.
[2] There were eight three person interacting groups each providing one protocol. In total, 24 seniors participated.
[3] Each participant analysed between one and three cases. A total of 30 protocols were collected.

# Appendix Two
## Study One Research Instrument

NOTES:

- The order in which the names were listed on the staff card corresponded to the order in which the predictions of the future performance were made. This was randomly determined. References to Auditor A, Auditor B, Auditor C, and Auditor D, were changed accordingly.

- The order of the cases (Case 1, 2, 3, and 4) was determined with reference to the order in which the predictions of future performance were made (see above point) and the counterbalancing of the senior and staff auditor cases between the two senior auditors and the two staff auditors. The number of each case was changed accordingly.

THE UNIVERSITY OF
NEW SOUTH WALES

NOEL HARDING

LECTURER
School of Accounting

# General Instructions

Thank you for participating in this study.

In this study, I am interested in the way in which you make certain decisions during the conduct of an audit. In order to do this, I am going to ask you to think aloud as you complete a series of problems. What I mean by think aloud is that I want you to tell me everything you are thinking from the time you first see the problem until you give me an answer. I would like you to think aloud constantly from the time you first see each problem until you have given your final answer. Please don't plan what you say or justify what you are saying. Just act as if you are in a room speaking to yourself. It is most important that you keep talking. If you are silent for any period of time I will prompt you to continue to 'think aloud'. I will be operating a tape recorder while you are 'thinking aloud'.

Please note that your responses are anonymous. Your name is not written or recorded on any part of the materials or the tape. It will not be possible to specifically identify your responses. I assure you that all responses will be kept confidential. My responsibility to you parallels yours to your clients.

In order for you to become familiar with 'thinking aloud', two practice exercises will be completed following the collection of some preliminary information.

If you would like a summary of the research findings, send your business card to me at the address below. Alternatively, you can send your request by e-mail to N.Harding@unsw.edu.au

Once again, thank you for your participation.

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# Preliminary Information

In order to complete the materials it is first necessary for you to select and write down the name of two colleagues. Several procedures are in place to ensure the anonymity of the colleagues you select;

- You are only required to write the person's first name (please do not write their family name).
- Auditors from several firms are participating in this study. It is not possible to identify the responses of participants from specific firms. Therefore, it is not possible to identify the firm at which the individuals you select work.
- Findings will only be reported at the aggregate level.

Once again, the anonymity of your responses and the colleagues you select are guaranteed.

You will need to read the two 'colleague descriptions' provided below. For each description, think of a colleague who meets that description and write their name on each of the two attached yellow staff cards.

**COLLEAGUE DESCRIPTION A**

A staff auditor with whom you have worked with in the last six months (with approximately 1 year of audit experience). The circumstances surrounding your prior work involvement are not important, except for the fact that it is necessary for you to be familiar with some aspect of their prior audit work.

Please write this person's first name only next to **Auditor A** on each of the two attached yellow 'staff cards'.

**COLLEAGUE DESCRIPTION B**

A senior auditor with whom you have worked with in the last six months (with approximately 4 years of audit experience). The circumstances surrounding your prior work involvement are not important, except for the fact that it is necessary for you to be familiar with some aspect of their prior audit work.

Please write this person's first name only next to **Auditor B** on each of the two attached yellow 'staff cards'.

# Staff Card

**Auditor A:** _____

**Auditor B:** _____

**Auditor C:** Lee
Lee is a staff auditor with 1 year of audit experience. Lee transferred to your group from interstate.

**Auditor D:** Chris
Chris is a senior auditor with 4 years of audit experience (1 year as a senior). Chris transferred to your group from interstate.

---

# Exercise 1

Please remember to 'think aloud'.

What is the answer obtained when multiplying **5** x **36**?

Answer:_____

Please remember to 'think aloud'.

# Exercise 2

Please remember to 'think aloud'.

Assume that an Australian Federal Election will be held in two month's time. In your opinion, what is the likelihood that the present coalition government (Liberal and National Parties) would be returned to power?

Please indicate your response on the following scale by circling the appropriate number.

| 100% Probability | | | | | | | | | | 0% Probability |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Please remember to 'think aloud'.

# Instructions

In this study it will be necessary for you to predict the responses of some individuals within your firm to particular audit situations. It is important to be as honest as possible. The anonymity of your responses are guaranteed.

You will recall that your name is not written on any of these materials and it is not possible to identify the auditors whose names are written on the staff card. In addition, as you work through the materials, you will note that references to auditors are in the form of 'Auditor A', 'Auditor B', 'Auditor C', and 'Auditor D', not the person's name.

The materials consists of 4 brief cases. Although a similar decision is made in each case, the background information is different, and you will be predicting the response of a different person each time. You should treat each case independently.

Please remember to 'think aloud' from the time you first see the problem until you give me an answer. Please don't plan what you say or justify what you are saying. Just act as if you are in a room speaking to yourself. It is most important that you keep talking. If you are silent for any period of time, I will prompt you to continue to 'think aloud'.

# Case 1
# Stocktakes

When observing the physical inventory count, the auditors observing the client's count need to be alert for the existence of events or circumstances that should be documented and bought to the reviewing senior's attention. These circumstances are not usually specified, or are only generally discussed in the audit program that is followed by audit staff. An example would be circumstances that might suggest valuation concerns such as inventory in difficult to reach locations within the warehouse.

Refer to the person whose name is recorded next to Auditor A on the yellow staff card. If Auditor A was observing the stocktake and saw inventory in difficult to reach locations, what level of confidence would you have that this auditor would independently (ie. without specific instruction) identify this as an issue and bring the matter to the reviewing senior's attention?

Please indicate your confidence by circling the appropriate number on the following scale;

| 100% Confident | | | | | | | | | | 0% Confident |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Please remember to 'think aloud'.

# Case 2
# Audit Planning

When amending the audit program following concerns arising from analytical review, the senior must ensure that the additional testing is consistent with the audit objective being pursued. One example would relate to the possibility of debtors being understated. In such a situation, it would be appropriate to, for example, trace sales invoices to debtors listing (additional tracing) rather than increasing the debtors circularisation sample size (additional vouching).

Refer to the person whose name is recorded next to Auditor B on the yellow staff card. If Auditor B was amending the audit plan, what level of confidence would you have that this auditor would identify the need for additional tracing, not vouching?

Please indicate your confidence by circling the appropriate number on the following scale;

| 100% Confident | | | | | | | | | | 0% Confident |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Please remember to 'think aloud'.

# Case 3
# Cut-off Testing

When performing cut-off tests, the auditor performing the work should be alert for the existence of events or circumstances that should be documented and bought to the reviewing senior's attention. These circumstances are not usually specified, or are only generally discussed, in the audit program that is followed by audit staff. An example would be transactions involving a previously identified related party.

Refer to the person whose name is recorded next to Auditor C on the yellow staff card. If Auditor C was performing the cut-off tests and tested transactions which involved a related party transaction, what level of confidence would you have that this auditor would independently (ie. without specific instruction) identify and bring to the reviewing senior's attention the related party transaction?

Please indicate your confidence by circling the appropriate number on the following scale;

| 100% Confident | | | | | | | | | | 0% Confident |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Please remember to 'think aloud'.

# Case 4
# Audit Planning

When conducting analytical review, unusual fluctuations often have implications for accounts other than that for which the fluctuation was identified. One example would be the identification of excessive sales returns and allowances. Such a fluctuation has implications for the valuation of inventory and measurement of warranty liabilities.

Refer to the person whose name is recorded next to Auditor D on the yellow staff card. If Auditor D was preparing the audit plan, what level of confidence would you have that this auditor would identify the implications for the related accounts.

Please indicate your confidence by circling the appropriate number on the following scale;

| 100% Confident | | | | | | | | | | 0% Confident |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

Please remember to 'think aloud'.

# General Questionnaire

Please answer the following questions in the spaces provided. In order to answer the questions, you will need to refer to the yellow 'staff card'.

**It is <u>not</u> necessary for you to think aloud while answering these questions.**

---

1. To what extent are you familiar with the previous audit work of <u>Auditor A</u> (refer staff card)? Please answer on the following scale by circling the appropriate number.

| Not at all Familiar | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely Familiar |
|---|---|---|---|---|---|---|---|---|

2. Have you ever reviewed the work of <u>Auditor A</u>?
   Please tick the appropriate box or boxes

   ❒ No
   ❒ Yes

   If Yes, have you reviewed their work in the following areas?

| | Yes | No |
|---|---|---|
| Stocktakes | ❒ | ❒ |
| Cut-off tests | ❒ | ❒ |
| Audit planning | ❒ | ❒ |

3. Have you ever worked with <u>Auditor A</u> (other than reviewing their work)?
   Please tick the appropriate box or boxes.

   ❒ No
   ❒ Yes

   If Yes, have you worked with Auditor A in the following areas?

| | Yes | No |
|---|---|---|
| Stocktakes | ❒ | ❒ |
| Cut-off tests | ❒ | ❒ |
| Audit planning | ❒ | ❒ |

# General Questionnaire (cont.)

4. When was the most recent occasion that you worked with or reviewed the work of Auditor A?
   Please tick the appropriate box.

   - ❒ Less than 1 month ago
   - ❒ Between 1 and 6 months ago
   - ❒ Between 7 and 12 months ago
   - ❒ More than 12 months ago
   - ❒ I have not worked with or reviewed the work of Auditor A

5. To what extent are you familiar with the previous audit work of Auditor B (refer staff card)? Please answer on the following scale by circling the appropriate number.

| Not at all Familiar | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely Familiar |
|---|---|---|---|---|---|---|---|---|

6. Have you ever reviewed the work of Auditor B?
   Please tick the appropriate box or boxes.

   - ❒ No
   - ❒ Yes

   If Yes, have you reviewed their work in the following areas?

| | Yes | No |
|---|---|---|
| Stocktakes | ❒ | ❒ |
| Cut-off tests | ❒ | ❒ |
| Audit planning | ❒ | ❒ |

7. Have you ever worked with Auditor B (other than reviewing their work)?
   Please tick the appropriate box or boxes.

   - ❒ No
   - ❒ Yes

   If Yes, have you worked with Auditor B in the following areas?

| | Yes | No |
|---|---|---|
| Stocktakes | ❒ | ❒ |
| Cut-off tests | ❒ | ❒ |
| Audit planning | ❒ | ❒ |

# General Questionnaire (cont.)

8. When was the most recent occasion that you worked with or reviewed the work of Auditor B?
   Please tick the appropriate box.

   - ❒ Less than 1 month ago
   - ❒ Between 1 and 6 months ago
   - ❒ Between 7 and 12 months ago
   - ❒ More than 12 months ago
   - ❒ I have not worked with or reviewed the work of Auditor B

9. To what extent are you familiar with the previous audit work of Auditor C (refer staff card)? Please answer on the following scale by circling the appropriate number.

| Not at all Familiar | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely Familiar |
|---|---|---|---|---|---|---|---|---|

10. Have you ever reviewed the work of Auditor C?

    - ❒ No
    - ❒ Yes

    If Yes, have you reviewed their work in the following areas?

| | Yes | No |
|---|---|---|
| Stocktakes | ❒ | ❒ |
| Cut-off tests | ❒ | ❒ |
| Audit planning | ❒ | ❒ |

11. Have you ever worked with Auditor C (other than reviewing their work)?
    Please tick the appropriate box.

    - ❒ No
    - ❒ Yes

    If Yes, have you worked with Auditor C in the following areas?

| | Yes | No |
|---|---|---|
| Stocktakes | ❒ | ❒ |
| Cut-off tests | ❒ | ❒ |
| Audit planning | ❒ | ❒ |

# General Questionnaire (cont.)

12. When was the most recent occasion that you worked with or reviewed the work of Auditor C?
    Please tick the appropriate box.

    - ❒ Less than 1 month ago
    - ❒ Between 1 and 6 months ago
    - ❒ Between 7 and 12 months ago
    - ❒ More than 12 months ago
    - ❒ I have not worked with or reviewed the work of Auditor C

13. To what extent are you familiar with the previous audit work of Auditor D (refer staff card)? Please answer on the following scale by circling the appropriate number.

| Not at all Familiar | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Extremely Familiar |
|---|---|---|---|---|---|---|---|---|

14. Have you ever reviewed the work of Auditor D?
    Please tick the appropriate box or boxes.

    - ❒ No
    - ❒ Yes

    If Yes, have you reviewed their work in the following areas?

| | Yes | No |
|---|---|---|
| Stocktakes | ❒ | ❒ |
| Cut-off tests | ❒ | ❒ |
| Audit planning | ❒ | ❒ |

15. Have you ever worked with Auditor D (other than reviewing their work)?
    Please tick the appropriate box or boxes.

    - ❒ No
    - ❒ Yes

    If Yes, have you worked with Auditor D in the following areas?

| | Yes | No |
|---|---|---|
| Stocktakes | ❒ | ❒ |
| Cut-off tests | ❒ | ❒ |
| Audit planning | ❒ | ❒ |

# General Questionnaire (cont.)

16. When was the most recent occasion that you worked with or reviewed the work of Auditor D?
    Please tick the appropriate box.

    - ❒ Less than 1 month ago
    - ❒ Between 1 and 6 months ago
    - ❒ Between 7 and 12 months ago
    - ❒ More than 12 months ago
    - ❒ I have not worked with or reviewed the work of Auditor D

17. What is the hierarchical level of each of the following auditors
    Please tick the appropriate boxes.

| | Staff | Senior | Manager | Other (please specify) |
|---|---|---|---|---|
| Auditor A | ❒ | ❒ | ❒ | ❒ _____ |
| Auditor B | ❒ | ❒ | ❒ | ❒ _____ |
| Auditor C | ❒ | ❒ | ❒ | ❒ _____ |
| Auditor D | ❒ | ❒ | ❒ | ❒ _____ |

18. What is your present position within the firm?

    _____

19. Your experience in auditing? _____ years and _____ months.

***Thank you for participating in this study.***

***Please remember that you can request a summary of the research findings.***

# Appendix Three
## Study Two
## Confidentiality Considerations

In Study Two it was necessary to ensure the confidentiality of responses. This was not only in response to University ethics committee requirements, but also the fact that subjects would be predicting the future performance of fellow students meant that maintaining confidentiality reduced the possibility of bias.

Normally, this would not present a problem. However, in this study, it was necessary to be able to objectively measure prediction performance and provide individual specific feedback, both of which required the ability to identify each student's specific responses in stage one (ie. the 48 question multiple choice questionnaire). This appendix outlines the procedures that were incorporated into the study's design and administration aimed at ensuring responses were and remain confidential.

Confidentiality was maintained by only recording unique identity numbers on the research materials. In order to facilitate the objective measurement of prediction performance and the provision of feedback, the subjects also wrote their name on a separate card which also contained the identity number from the materials they completed. This was done at the beginning of stage one. The card was collected and retained by a research assistant. At no time did the author, who had custody of the responses, ever have access to the cards on which the students' names were recorded.

As noted in Chapter Four, as part of the preparation of stage two materials, a blue card was prepared containing the names of two students with whom the subject completed the group assignment. This card was given to the research assistant in possession of the cards from stage one who in turn wrote the identity number (from stage one) of the two students next to the names on the card. This blue card was directly distributed to participants at the time stage two materials were administered. Prior to the administration of the materials, the identity numbers, but not the names, were also provided to the author in order to prepare individual specific feedback. With knowledge of the identity numbers, the completed multiple choice questionnaires could be referred to in order to prepare the individual specific feedback for each of the two students whose names were written on the blue card.

As discussed in Chapter Four, subjects selected one student from the list of two provided. It is for this student that the subject predicted performance and for this student that it was necessary to identify their actual performance from stage one. The number, but not the name, of the student whose performance was being predicted was written on a separate card and kept with the research materials. In the individual specific feedback condition, the research assistant was also informed of the identity number of the person selected so that they could provide the appropriate feedback materials. The feedback materials that were not used were set aside. The blue card (containing the names and identity numbers of the two students) was retained by the subject. In this way, the author was aware of the identity number of the student whose performance was predicted, but not their name. It was, therefore, possible to determine prediction performance while maintaining confidentiality.

All of these procedures were explained to the participants prior to the administration of the study so as to reinforce the fact that responses were anonymous.

# Appendix Four
## Study Two (Stage One) Research Instrument

**NOTE:**

- The 48 questions were randomly ordered and the number of each question changed accordingly.

THE UNIVERSITY OF
NEW SOUTH WALES

NOEL HARDING

SENIOR LECTURER
School of Accounting

# Instructions

Thank you for agreeing to take part in this study. The study has two parts. The first part completed today involves you answering 48 multiple choice questions that relate to work covered in the first half of your auditing course.

This is not an examination and does not contribute to your final grade. In fact, procedures have been put in place to ensure that no person from the University of New South Wales (including myself) will ever know your responses to each of the questions. The only place where your name will be recorded is on the attached blue card. This card will not be kept by any University of New South Wales staff member.

You will be given feedback on your performance and the questions will be reviewed as part of a revision lecture prior to the final exam You should answer each question to the best of your ability as this is important for the study and will allow you to obtain the most benefit from the exercise.

You should complete each question individually and without discussion with other students. There is only one correct answer for each question. You may return to a question at any time and change your original answer if you consider that it is necessary. You should aim to complete the questions within one hour.

Please write your name on the attached blue card. A research assistant will collect this while you are completing the questions. To ensure confidentiality, do not write your name on any part of the research materials.

Once again, thank you for your participation.

Noel Harding
Senior Lecturer
The University of New South Wales

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

1. Proper segregation of duties calls for separation of the;

   A Authorisation, recording, and custodial functions.
   B Authorisation, execution, and payment functions.
   C Receiving, shipping, and custodial functions.
   D Authorisation, approval, and execution functions.

<8-9> **Record your answer here (A, B, C, or D): _____**

2. An audit of the financial report of Campbell Ltd is being conducted by an external auditor. The external auditor is expected to;

   A Express an opinion as to the fairness of Campbell Ltd's financial report.
   B Express an opinion as to the attractiveness of Campbell Ltd for investment purposes.
   C Certify the correctness of Campbell Ltd's financial report.
   D Make a 100% examination of Campbell Ltd's records.

<1-4> **Record your answer here (A, B, C, or D): _____**

3. Which of the following audit procedures is least likely to detect an unrecorded liability?

   A Analysis and recomputation of interest expense.
   B Analysis and recomputation of depreciation expense.
   C Mailing of standard bank confirmation form.
   D Reading of the minutes of meetings of the board of directors.

<9-1> **Record your answer here (A, B, C, or D): _____**

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

4. The situation and circumstances can dictate the level of certain risks no matter what the auditor does. However, the auditor is always able to decide to reduce one of the following risks;

   A Control risk.
   B Risk of management fraud.
   C Detection risk.
   D Inherent risk.

<5-28> **Record your answer here (A, B, C, or D): _____**

5. An audit firm's quality control procedures pertaining to the acceptance of a prospective audit client would most likely include;

   A Inquiry of management as to whether disagreements between the predecessor auditor and the prospective client were resolved satisfactorily.
   B Consideration of whether sufficient appropriate audit evidence may be obtained to afford a reasonable basis for an opinion.
   C Inquiry of third parties, such as the prospective client's bankers and solicitors, about information regarding the prospective client and its management.
   D Consideration of whether the internal control structure is sufficiently effective to permit a reduction in the extent of required substantive tests.

<2-10> **Record your answer here (A, B, C, or D): _____**

6. Some account balances, such as those for foreign currency translation or leases, are the result of complex calculations. The susceptibility to material misstatements in these types of accounts is defined as;

   A Detection risk.
   B Audit risk.
   C Sampling risk.
   D Inherent risk.

<7-21> **Record your answer here (A, B, C, or D): _____**

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

7. It is important for the auditor to consider the competence of the audit client's employees because their competence bears directly and importantly upon the;

   A Cost/benefit relationship of the internal control structure.
   B Achievement of the objectives of internal control.
   C Comparison or recorded accountability with assets.
   D Timing of the tests to be performed.

<8-32> **Record your answer here (A, B, C, or D): _____**

8. Failure to detect material dollar misstatements in the financial report is a risk which the auditor primarily reduces by;

   A Performing substantive tests.
   B Performing tests of controls.
   C Understanding the internal control structure.
   D Obtaining a client representation letter.

<5-3> **Record your answer here (A, B, C, or D): _____**

9. The understanding between the client and the auditor as to the degree of responsibility to be assumed by each is normally set forth in a (an);

   A Representation letter.
   B Engagement letter.
   C Management letter.
   D Comfort letter.

<6-5> **Record your answer here (A, B, C, or D): _____**

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

10. The primary factor that distinguishes errors from irregularities is;

    A Whether the underlying cause of misstatement relates to the misapplication of accounting principles or to clerical processing.
    B Whether the misstatement is perpetrated by an employee or by a member of management.
    C Whether the underlying cause of a misstatement is intentional or unintentional.
    D Whether the misstatement is concealed.

<7-8> **Record your answer here (A, B, C, or D): _____**

11. An auditor examines a sample of copies of sales invoices for the initials of the person who verified the quantitative data. This is an example of a;

    A Test of controls.
    B Substantive test.
    C Cutoff test.
    D Statistical test.

<5-13> **Record your answer here (A, B, C, or D): _____**

12. Which of the following statements best describes the distinction between the auditor's and management's responsibilities?

    A Management has responsibility for the basic data underlying financial statements, and the auditor has responsibility for drafting the financial report.
    B Management has responsibility for maintaining and adopting sound accounting policies, and the auditor has responsibility for establishing and maintaining the internal control structure.
    C The auditor's responsibility is confined to the audited portion of the financial report, and the management's responsibility is confined to the unaudited portions.
    D The auditor's responsibility is confined to expressing an opinion, but the financial report remains the responsibility of management.

<1-8> **Record your answer here (A, B, C, or D): _____**

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

13. Which of the following statements best explains why the auditing profession has found it essential to promulgate ethical standards and to establish means for ensuring their observance?

    A Vigorous enforcement of an established code of ethics is the best way to prevent unscrupulous acts.
    B Ethical standards that emphasise excellence in performance over material rewards establish a reputation for competence and character.
    C A distinguishing mark of a profession is its acceptance of responsibility to the public.
    D A requirement for a profession is to establish ethical standards that stress primarily a responsibility to clients and colleagues.

<2-9> **Record your answer here (A, B, C, or D): _____**

14. When reviewing a loan agreement to ascertain the bank's security over any of the client's assets, the audit assertion being achieved is;

    A Valuation.
    B Completeness.
    C Rights and obligations.
    D Disclosure.

<5-20> **Record your answer here (A, B, C, or D): _____**

15. All of the following are advantages of PPS sampling except;

    A Large items have a higher probability of selection.
    B It is not necessary to estimate the standard deviation of the population.
    C Understated items have a lower probability of selection.
    D Several account balances can be confirmed and treated as one population.

<11-42> **Record your answer here (A, B, C, or D): _____**

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

16. Independent auditors perform audits on the financial reports of public companies. This type of auditing can best be described as;

    A An activity whose purpose is to search for irregularities.
    B A discipline that attests to financial information presented by management.
    C A professional activity that measures and communicates financial and business data.
    D A regulatory function that prevents the issuance of improper financial information.

<1-3> **Record your answer here (A, B, C, or D): _____**

17. 'Dual purpose tests' is a term used for;

    A Tests of controls that address both the design of the control procedures and their operating effectiveness.
    B Tests of transactions that include substantive procedures as well as tests of controls.
    C Tests that address both balances and transaction classes.
    D Tests performed because of client expectations as well as for gathering audit evidence.

<5-29> **Record your answer here (A, B, C, or D): _____**

18. Tests of controls are performed to determine whether or not;

    A Control policies and procedures are functioning as designed.
    B Necessary controls are absent.
    C Incompatible functions exist.
    D Material dollar misstatements exist.

<8-18> **Record your answer here (A, B, C, or D): _____**

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

19. Which of the following internal control structure features would an auditor be least likely to review?

    A Segregation of the asset-handling and record keeping functions.
    B Company policy regarding credit and collection efforts.
    C Sales and records classified by products.
    D Authorisation of additions to plant and equipment.

<8-23> **Record your answer here (A, B, C, or D): _____**

20. An auditor would place most reliance on the results of analytical procedures when there is;

    A Material balance, low inherent risk, low control risk.
    B Immaterial balance, high inherent risk, high control risk.
    C Material balance, low inherent risk, high control risk.
    D Immaterial balance, low inherent risk, low control risk.

<6-27> **Record your answer here (A, B, C, or D): _____**

21. The primary purpose of establishing quality control policies and procedures for deciding whether to accept a new client is to;

    A Enable the audit firm to attest to the reliability of the client.
    B Satisfy the audit firm's duty to the public concerning the acceptance of new clients.
    C Minimise the likelihood of association with clients whose management lacks integrity.
    D Anticipate before performing any field work whether an unqualified opinion can be expressed.

<2-12> **Record your answer here (A, B, C, or D): _____**

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

22. Your client is a manufacturer of CD's and music tapes. Theft has been an ongoing problem. The key audit risk to be addressed at year end is;

    A Valuation of inventory.
    B Existence of inventory.
    C Rights and obligations in relation to inventory.
    D Completeness of inventory.

<5-1> **Record your answer here (A, B, C, or D): _____**

23. The extent of substantive tests for an assertion in relation to the assessed level of inherent risk varies in a relationship that is ordinarily;

    A Opposite.
    B Inverse.
    C Direct.
    D Unequal.

<7-5> **Record your answer here (A, B, C, or D): _____**

24. Which of the following is appropriate in the selection of a statistical audit sample?

    A Haphazard selection.
    B Random selection.
    C Block selection.
    D Judgmental selection.

<11-3> **Record your answer here (A, B, C, or D): _____**

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

25. Which of the following statements is true?

    A The risk that material misstatement will not be prevented or detected on a timely basis by the internal control structure can be reduced to zero by effective control activities.
    B Cash is more susceptible to theft than an inventory of coal because it has greater inherent risk.
    C Detection risk is a function of the efficiency of an auditing procedure.
    D The existing levels of inherent risk, control risk, and detection risk can be changed at the discretion of the auditor.

<7-22> **Record your answer here (A, B, C, or D): _____**

26. In which of the following situations would an entity be assessed as having high inherent risk?

    A Management who helped establish the company 10 years ago are still in place.
    B Rapid growth in the US economy has led to increased export sales.
    C The company's engineering product has a patent that will expire in 10 year's time.
    D The company has just appointed an audit committee.

<7-18> **Record your answer here (A, B, C, or D): _____**

27. Most of the independent auditor's work in formulating an opinion on a financial report consists of;

    A Obtaining an understanding of the internal control structure.
    B Obtaining and examining audit evidence.
    C Examining cash transactions.
    D Comparing recorded accountability with assets.

<5-11> **Record your answer here (A, B, C, or D): _____**

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

28. A client erroneously recorded a large purchase twice. Which of the following control measures would be the most likely to detect this error in a timely and efficient manner?

    A Footing the purchases journal.
    B Reconciling suppliers monthly statements with subsidiary accounts payable ledger accounts.
    C Tracing totals from the purchases journal to the ledger accounts.
    D Sending written quarterly confirmations to all suppliers.

<9-22> **Record your answer here (A, B, C, or D): _____**

29. Your audit client has a new management incentive scheme in place with the bonus calculated on the basis of the increase in net profit over the previous year. The basis of the bonus will remain the same for the next three years. Your client has had a poor year and will not meet its budget or last year's net profit. Which of the following represents an inherent risk?

    A Insufficient provisions.
    B Next year's expenses taken up this year.
    C Next year's sales incorrectly taken up this year.
    D Overstatement of debtors.

<7-25> **Record your answer here (A, B, C, or D): _____**

30. Which of the following is not a red flag of a predisposition to material misrepresentations?

    A Senior accounting personnel turnover is high.
    B Error reports generated by the accounting system indicate many mistakes in the input of accounting data.
    C Management operating and financing decisions are dominated by a single person.
    D Matters are present that raise doubt about the entity's ability to continue as a going concern.

<7-7> **Record your answer here (A, B, C, or D): _____**

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

31. Which of the following is not a substantive test?

    A Analytical procedures.
    B Tests of controls.
    C Direct tests of balances.
    D Confirmation of bank balances at year end.

<7-1> **Record your answer here (A, B, C, or D): _____**

32. When considering internal control, an auditor must be aware of the concept of reasonable assurance which recognises that the;

    A Employment of competent personnel provides assurance that the objectives of internal control will be achieved.
    B Establishment and maintenance of an internal control structure is an important responsibility of the management and not the auditor.
    C Cost of internal control should not exceed the benefits expected to be derived from internal control.
    D Segregation of duties is necessary to ascertain that the internal control structure elements are effective.

<8-10> **Record your answer here (A, B, C, or D): _____**

33. An auditor assesses the level of control risk in order to;

    A Determine the extent of tests of controls to be performed.
    B Determine the extent of substantive tests to be performed.
    C Ascertain whether irregularities are probable.
    D Ascertain whether any employees have incompatible duties.

<8-30> **Record your answer here (A, B, C, or D): _____**

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

34. It would not be appropriate to use dollar unit sampling as a selection method as the primary source of evidence for;

    A Plant and machinery.
    B Accounts payable.
    C Payroll expenses.
    D Accounts receivable.

<11-10> **Record your answer here (A, B, C, or D): _____**

35. Which of the following is ordinarily considered a test of controls?

    A Send confirmation letters to banks.
    B Count and list cash on hand.
    C Examine signatures on cheques.
    D Obtain or prepare reconciliations of bank accounts as of the balance date.

<8-28> **Record your answer here (A, B, C, or D): _____**

36. Early appointment of the auditor enables preliminary work to be performed by the auditor which benefits the client in that it permits the audit to be performed in;

    A A more efficient manner.
    B A more thorough manner.
    C Accordance with quality control standards.
    D Accordance with generally accepted auditing standards.

<5-25> **Record your answer here (A, B, C, or D): _____**

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

37. Whenever negative assurance is provided by an auditor, it is based upon;

    A An absence of disconfirming evidence.
    B A presence of substantiating evidence.
    C An objective audit in accordance with the auditing standards.
    D A judgmental determination in accordance with guidelines promulgated by the accounting bodies.

<15-5> **Record your answer here (A, B, C, or D): _____**

38. How does the extent of substantive tests required to constitute sufficient appropriate audit evidence vary with the auditor's assessment of control risk?

    A Randomly.
    B Disproportionately.
    C Directly.
    D Inversely.

<8-40> **Record your answer here (A, B, C, or D): _____**

39. The audit trail includes all of the following except;

    A Journals and journal files.
    B Segregation of duties.
    C Ledgers and ledger files.
    D Source documents and transaction files.

<8-3> **Record your answer here (A, B, C, or D): _____**

ID Code: <Code>

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

40. When using a statistical sampling plan, the auditor would probably require a smaller sample if the;

    A Population increases.
    B Desired tolerable level of misstatement decreases.
    C Desired risk of incorrect acceptance increases.
    D Expected deviation rate increases.

<11-9> **Record your answer here (A, B, C, or D): _____**

41. Which of the following accounts should be reviewed by the auditor to gain reasonable assurance that additions to property plant and equipment are not understated?

    A Depreciation.
    B Accounts Payable.
    C Cash.
    D Repairs.

<9-30> **Record your answer here (A, B, C, or D): _____**

42. The use of analytical review as a substantive test will be limited if;

    A Detection risk is assessed as high.
    B Inherent risk is assessed as low.
    C Control risk is assessed as high.
    D Audit risk is assessed as low.

<6-31> **Record your answer here (A, B, C, or D): _____**

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

43. An independent auditor finds that Stoneyhill Ltd occupies office space, at no charge, in an office building owned by a shareholder. This finding indicates the existence of;

    A Management fraud.
    B Related-party transactions.
    C Window dressing.
    D Deficiencies in internal control structure.

<6-17> **Record your answer here (A, B, C, or D): _____**

44. Audit evidence can come in different forms with different degrees of persuasiveness. Which of the following is the least persuasive type of evidence?

    A Documents mailed by outsiders to the auditor.
    B Correspondence between auditor and vendors.
    C Sales invoices inspected by the auditor.
    D Computations made by the auditor.

<5-12> **Record your answer here (A, B, C, or D): _____**

45. Which of the following audit objectives relates primarily to the financial report assertion 'rights and obligations'?

    A Inventories are properly classified in the balance sheet as current assets.
    B Inventories exclude items billed to customers or owned by others.
    C Slow moving, excess, defective and obsolete items included in inventories are properly identified.
    D Inventory quantities include all products, materials, and supplies owned by the company.

<5-16> **Record your answer here (A, B, C, or D): _____**

# Questionnaire

Please answer the following questions to the best of your ability. There is only one correct answer per question. Please record your answers in the space provided.

46. Which of the following audit objectives does not relate primarily to the financial report assertion of 'completeness'?

    A Inventories are reduced, when appropriate, to replacement cost or net realisable value.
    B Inventory quantities include all products, materials, and supplies on hand.
    C Inventory listings are accurately compiled, and the totals are properly included in the inventory accounts.
    D Inventory quantities include products and materials owned by the company that are in transit or stored at outside locations.

<5-19> **Record your answer here (A, B, C, or D): _____**

47. An auditor who is not independent may issue a;

    A Compilation report.
    B Review report.
    C Performance audit report.
    D Qualified audit opinion.

<15-6> **Record your answer here (A, B, C, or D): _____**

48. The WebTrust Seal of Assurance signifies to an e-commerce customer that;

    A The privacy of the customer is guaranteed.
    B The entity with whom the customer is dealing follows the best business practices.
    C The business practices of the entity are disclosed and effective controls are maintained over transaction integrity and information protection.
    D The integrity of transaction is guaranteed.

<15-20> **Record your answer here (A, B, C, or D): _____**

# Appendix Four
## Study Two (Part Two)
## Research Instrument

**NOTES:**

- The experimental condition (no feedback, individual specific feedback, average group feedback) to which each sheet belongs is indicated on the bottom right hand corner of each page.
- Material printed in green was only included in the materials for the no feedback condition.
- Material printed in blue was only included in the materials for the individual specific feedback condition and the average group feedback condition
- The 48 questions (and associated feedback for those in the feedback conditions) were randomly ordered for each subject within the three blocks of 16 questions.
- The order in which the assessment of a familiar and unfamiliar student were made was randomised across subjects. The student card was changed accordingly.
- For those subjects receiving feedback, the research assistant recorded the subject's likelihood responses on the feedback sheet.
- For those subjects receiving individual specific feedback, feedback was unique to each subject and depended on the student whose past performance was being predicted. The feedback in this appendix is an example of the feedback provided for one subject.

THE UNIVERSITY OF
NEW SOUTH WALES

NOEL HARDING

SENIOR LECTURER
School of Accounting

# Instructions

Once again, thank you for participating in this study.

You will recall that two weeks ago, you answered 48 multiple choice questions. Today, you will consider whether your fellow students would have correctly answered each of those questions. One of the students will be a member of the group formed for the completion of your auditing assignment. The other student is studying auditing in the corresponding program in Guangzhou.

The confidentiality of your responses is guaranteed. Nobody, apart from yourself, will ever know the identity of who you are assessing. Your responses should be as honest as possible.

You should aim to complete this exercise within one hour.

Kind Regards

Noel Harding
Senior Lecturer
The University of New South Wales

*No Feedback Condition*

THE UNIVERSITY OF
NEW SOUTH WALES

NOEL HARDING

SENIOR LECTURER
School of Accounting

# Instructions

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You will recall that two weeks ago, you answered 48 multiple choice questions. Today, you will consider whether your fellow students would have correctly answered each of those questions. One of the students will be a member of the group formed for the completion of your auditing assignment. The other student is studying auditing in the corresponding program in Guangzhou.

The confidentiality of your responses is guaranteed. Nobody, apart from yourself, will ever know the identity of who you are assessing. Your responses should be as honest as possible.

In order to assist you in predicting performance, you will be given feedback following each prediction. After making your predictions, you will be told what percentage of all Guangzhou students provided each of the four responses (A, B, C, or D) and, therefore, were either correct or incorrect. You will then be given the next question for which you will assess the likelihood that the students answered the question correctly or not. You will be given this type of feedback after each question.

You should aim to complete this exercise within one hour.

Kind Regards

Noel Harding
Senior Lecturer
The University of New South Wales

*Average Group Feedback Condition*

THE UNIVERSITY OF
NEW SOUTH WALES

NOEL HARDING

SENIOR LECTURER
School of Accounting

# Instructions

Once again, thank you for participating in this study.

You will recall that two weeks ago, you answered 48 multiple choice questions. Today, you will consider whether your fellow students would have correctly answered each of those questions. One of the students will be a member of the group formed for the completion of your auditing assignment. The other student is studying auditing in the corresponding program in Guangzhou.

The confidentiality of your responses is guaranteed. Nobody, apart from yourself, will ever know the identity of who you are assessing. Your responses should be as honest as possible.

In order to assist you in predicting performance, you will be given feedback following each prediction. After making the prediction, you will be told what answer the students whose performance you are predicting provided and, therefore, whether their answer was correct or incorrect. You will then be given the next question for which you will assess the likelihood that the students answered the question correctly or not. You will be given this type of feedback after every question.

You should aim to complete this exercise within one hour.

Kind Regards

Noel Harding
Senior Lecturer
The University of New South Wales

*Individual Specific Feedback Condition*

# Instructions

In this study, you will be predicting whether students would have correctly answered each of the 48 questions that you yourself answered two weeks ago. Each sheet has the question reproduced together with the answer. You will need to assess how likely it was that particular students correctly answered the question.

Remember, your responses are confidential. Please be as honest as possible.

You will be providing your responses using a likelihood (probability) scale. That is, you will predict how likely it was that the student correctly answered the question. The scale is reproduced below.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

- If you feel that the student certainly would have answered the question correctly you would circle 10.
- If you feel that the student certainly would have answered the question incorrectly you would circle 0.
- If you feel that the student would have answered the question correctly, but are not certain, you would circle a number from 6 to 9 depending on how certain you are.
- If you feel that the student would have answered the question incorrectly, but are not certain, you would circle a number from 1 to 4 depending on how certain you are.

*Common to all conditions*

<ID Code>

# Student Card

**(You keep this card at the completion of the study)**

In order to ensure the confidentiality of your responses, the names of the students whose performance you will predict will be recorded on this card. The research materials will only refer to 'Student A' and 'Student B' and you will retain this card. That is, the card will not be kept with the completed research materials. It will, therefore, not be possible for any person to find out the identity of the person you are assessing.

**Student A: Zhang Hui**

Zhang Hui (name has been changed) is a student studying accounting in the Guangzhou program. They have passed all subjects to date. At the time they completed the multiple choice questionnaire they had studied the same audit topics as you had studied when you completed the questionnaire.

Although the name of the particular student has been changed in order to ensure confidentiality, you can be assured that this is an actual student studying in Guangzhou.

**Student B:** _____

From the following list, select one person and write their name in the space provided above. You will note that these people are all members of the group in which you completed the group assignment. Remember, it will not be possible to link your responses to the person you are assessing. You will keep this card.

Group Member 1: Student Name 1 (Code: ***)
Group Member 2: Student Name 2 (Code: ***)

Please write the code number (but not the name) of the student selected on the attached yellow card. It will shortly be collected by a research assistant. This will ensure that the data can be analysed without the researcher (or anybody else apart from yourself) knowing the identity of the person whose performance you are assessing.

*Common to all conditions*

<ID Code>

# Question

Proper segregation of duties calls for separation of the;

A Authorisation, recording, and custodial functions.
B Authorisation, execution, and payment functions.
C Receiving, shipping, and custodial functions.
D Authorisation, approval, and execution functions.

<8-9>

**The correct answer is A**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Proper segregation of duties calls for separation of the;

A Authorisation, recording, and custodial functions.
B Authorisation, execution, and payment functions.
C Receiving, shipping, and custodial functions.
D Authorisation, approval, and execution functions.

**The correct answer is A**

42.9% of students answered **A** and were, therefore, **correct**.
17.8% of students answered **B** and were, therefore, **incorrect**.
10.7% of students answered **C** and were, therefore, **incorrect**.
28.6% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Proper segregation of duties calls for separation of the;

A Authorisation, recording, and custodial functions.
B Authorisation, execution, and payment functions.
C Receiving, shipping, and custodial functions.
D Authorisation, approval, and execution functions.

**The correct answer is A**

The answer provided by student A was D and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

The answer provided by student B was D and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

An audit of the financial report of Campbell Ltd is being conducted by an external auditor. The external auditor is expected to;

A Express an opinion as to the fairness of Campbell Ltd's financial report.
B Express an opinion as to the attractiveness of Campbell Ltd for investment purposes.
C Certify the correctness of Campbell Ltd's financial report.
D Make a 100% examination of Campbell Ltd's records.

<1-4>

**The correct answer is A**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

An audit of the financial report of Campbell Ltd is being conducted by an external auditor. The external auditor is expected to;

A Express an opinion as to the fairness of Campbell Ltd's financial report.
B Express an opinion as to the attractiveness of Campbell Ltd for investment purposes.
C Certify the correctness of Campbell Ltd's financial report.
D Make a 100% examination of Campbell Ltd's records.

**The correct answer is A**

85.7% of students answered **A** and were, therefore, **correct**.
0.0% of students answered **B** and were, therefore, **incorrect**.
10.7% of students answered **C** and were, therefore, **incorrect**.
3.6% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

An audit of the financial report of Campbell Ltd is being conducted by an external auditor. The external auditor is expected to;

A Express an opinion as to the fairness of Campbell Ltd's financial report.
B Express an opinion as to the attractiveness of Campbell Ltd for investment purposes.
C Certify the correctness of Campbell Ltd's financial report.
D Make a 100% examination of Campbell Ltd's records.

**The correct answer is A**

The answer provided by student A was A and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following audit procedures is least likely to detect an unrecorded liability?

A Analysis and recomputation of interest expense.
B Analysis and recomputation of depreciation expense.
C Mailing of standard bank confirmation form.
D Reading of the minutes of meetings of the board of directors.

<9-1>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following audit procedures is least likely to detect an unrecorded liability?

A Analysis and recomputation of interest expense.
B Analysis and recomputation of depreciation expense.
C Mailing of standard bank confirmation form.
D Reading of the minutes of meetings of the board of directors.

**The correct answer is B**

10.7% of students answered **A** and were, therefore, **incorrect**.
39.3% of students answered **B** and were, therefore, **correct**.
14.3% of students answered **C** and were, therefore, **incorrect**.
35.7% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following audit procedures is least likely to detect an unrecorded liability?

A Analysis and recomputation of interest expense.
B Analysis and recomputation of depreciation expense.
C Mailing of standard bank confirmation form.
D Reading of the minutes of meetings of the board of directors.

**The correct answer is B**

The answer provided by student A was D and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

The situation and circumstances can dictate the level of certain risks no matter what the auditor does. However, the auditor is always able to decide to reduce one of the following risks;

A Control risk.
B Risk of management fraud.
C Detection risk.
D Inherent risk.

<5-28>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

The situation and circumstances can dictate the level of certain risks no matter what the auditor does. However, the auditor is always able to decide to reduce one of the following risks;

A Control risk.
B Risk of management fraud.
C Detection risk.
D Inherent risk.

**The correct answer is C**

14.3% of students answered **A** and were, therefore, **incorrect**.
0.0% of students answered **B** and were, therefore, **incorrect**.
85.7% of students answered **C** and were, therefore, **correct**.
0.0% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

The situation and circumstances can dictate the level of certain risks no matter what the auditor does. However, the auditor is always able to decide to reduce one of the following risks;

A Control risk.
B Risk of management fraud.
C Detection risk.
D Inherent risk.

**The correct answer is C**

The answer provided by student A was C and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was C and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

An audit firm's quality control procedures pertaining to the acceptance of a prospective audit client would most likely include;

A Inquiry of management as to whether disagreements between the predecessor auditor and the prospective client were resolved satisfactorily.

B Consideration of whether sufficient appropriate audit evidence may be obtained to afford a reasonable basis for an opinion.

C Inquiry of third parties, such as the prospective client's bankers and solicitors, about information regarding the prospective client and its management.

D Consideration of whether the internal control structure is sufficiently effective to permit a reduction in the extent of required substantive tests.

<2-10>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

An audit firm's quality control procedures pertaining to the acceptance of a prospective audit client would most likely include;

A Inquiry of management as to whether disagreements between the predecessor auditor and the prospective client were resolved satisfactorily.
B Consideration of whether sufficient appropriate audit evidence may be obtained to afford a reasonable basis for an opinion.
C Inquiry of third parties, such as the prospective client's bankers and solicitors, about information regarding the prospective client and its management.
D Consideration of whether the internal control structure is sufficiently effective to permit a reduction in the extent of required substantive tests.

**The correct answer is C**

14.3% of students answered **A** and were, therefore, **incorrect**.
25.0% of students answered **B** and were, therefore, **incorrect**.
57.1% of students answered **C** and were, therefore, **correct**.
3.6% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

An audit firm's quality control procedures pertaining to the acceptance of a prospective audit client would most likely include;

A Inquiry of management as to whether disagreements between the predecessor auditor and the prospective client were resolved satisfactorily.
B Consideration of whether sufficient appropriate audit evidence may be obtained to afford a reasonable basis for an opinion.
C Inquiry of third parties, such as the prospective client's bankers and solicitors, about information regarding the prospective client and its management.
D Consideration of whether the internal control structure is sufficiently effective to permit a reduction in the extent of required substantive tests.

**The correct answer is C**

The answer provided by student A was C and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Some account balances, such as those for foreign currency translation or leases, are the result of complex calculations. The susceptibility to material misstatements in these types of accounts is defined as;

A Detection risk.
B Audit risk.
C Sampling risk.
D Inherent risk.

<7-21>

**The correct answer is D**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Some account balances, such as those for foreign currency translation or leases, are the result of complex calculations. The susceptibility to material misstatements in these types of accounts is defined as;

A Detection risk.
B Audit risk.
C Sampling risk.
D Inherent risk.

**The correct answer is D**

10.7% of students answered **A** and were, therefore, **incorrect.**
3.6% of students answered **B** and were, therefore, **incorrect.**
0.0% of students answered **C** and were, therefore, **incorrect.**
85.7% of students answered **D** and were, therefore, **correct.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Some account balances, such as those for foreign currency translation or leases, are the result of complex calculations. The susceptibility to material misstatements in these types of accounts is defined as;

A Detection risk.
B Audit risk.
C Sampling risk.
D Inherent risk.

**The correct answer is D**

The answer provided by student A was D and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was D and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

It is important for the auditor to consider the competence of the audit client's employees because their competence bears directly and importantly upon the;

A Cost/benefit relationship of the internal control structure.
B Achievement of the objectives of internal control.
C Comparison or recorded accountability with assets.
D Timing of the tests to be performed.

<8-32>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

It is important for the auditor to consider the competence of the audit client's employees because their competence bears directly and importantly upon the;

A Cost/benefit relationship of the internal control structure.
B Achievement of the objectives of internal control.
C Comparison or recorded accountability with assets.
D Timing of the tests to be performed.

**The correct answer is B**

10.7% of students answered **A** and were, therefore, **incorrect.**
85.7% of students answered **B** and were, therefore, **correct.**
0.0% of students answered **C** and were, therefore, **incorrect.**
3.6% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

It is important for the auditor to consider the competence of the audit client's employees because their competence bears directly and importantly upon the;

A Cost/benefit relationship of the internal control structure.
B Achievement of the objectives of internal control.
C Comparison or recorded accountability with assets.
D Timing of the tests to be performed.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Failure to detect material dollar misstatements in the financial report is a risk which the auditor primarily reduces by;

A Performing substantive tests.
B Performing tests of controls.
C Understanding the internal control structure.
D Obtaining a client representation letter.

<5-3>

**The correct answer is A**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Failure to detect material dollar misstatements in the financial report is a risk which the auditor primarily reduces by;

A Performing substantive tests.
B Performing tests of controls.
C Understanding the internal control structure.
D Obtaining a client representation letter.

**The correct answer is A**

85.7% of students answered **A** and were, therefore, **correct**.
10.7% of students answered **B** and were, therefore, **incorrect**.
3.6% of students answered **C** and were, therefore, **incorrect**.
0.0% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Failure to detect material dollar misstatements in the financial report is a risk which the auditor primarily reduces by;

A Performing substantive tests.
B Performing tests of controls.
C Understanding the internal control structure.
D Obtaining a client representation letter.

**The correct answer is A**

The answer provided by student A was A and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

The understanding between the client and the auditor as to the degree of responsibility to be assumed by each is normally set forth in a (an);

A Representation letter.
B Engagement letter.
C Management letter.
D Comfort letter.

<6-5>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

The understanding between the client and the auditor as to the degree of responsibility to be assumed by each is normally set forth in a (an);

A Representation letter.
B Engagement letter.
C Management letter.
D Comfort letter.

**The correct answer is B**

0.0% of students answered **A** and were, therefore, **incorrect.**
96.4% of students answered **B** and were, therefore, **correct.**
0.0% of students answered **C** and were, therefore, **incorrect.**
3.6% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

The understanding between the client and the auditor as to the degree of responsibility to be assumed by each is normally set forth in a (an);

A Representation letter.
B Engagement letter.
C Management letter.
D Comfort letter.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

The primary factor that distinguishes errors from irregularities is;

A Whether the underlying cause of misstatement relates to the misapplication of accounting principles or to clerical processing.
B Whether the misstatement is perpetrated by an employee or by a member of management.
C Whether the underlying cause of a misstatement is intentional or unintentional.
D Whether the misstatement is concealed.

<7-8>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

The primary factor that distinguishes errors from irregularities is;

A Whether the underlying cause of misstatement relates to the misapplication of accounting principles or to clerical processing.
B Whether the misstatement is perpetrated by an employee or by a member of management.
C Whether the underlying cause of a misstatement is intentional or unintentional.
D Whether the misstatement is concealed.

**The correct answer is C**

25.0% of students answered **A** and were, therefore, **incorrect**.
7.1% of students answered **B** and were, therefore, **incorrect**.
50.0% of students answered **C** and were, therefore, **correct**.
17.9% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

The primary factor that distinguishes errors from irregularities is;

A Whether the underlying cause of misstatement relates to the misapplication of accounting principles or to clerical processing.
B Whether the misstatement is perpetrated by an employee or by a member of management.
C Whether the underlying cause of a misstatement is intentional or unintentional.
D Whether the misstatement is concealed.

**The correct answer is C**

The answer provided by student A was D and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

The answer provided by student B was C and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

An auditor examines a sample of copies of sales invoices for the initials of the person who verified the quantitative data. This is an example of a;

A Test of controls.
B Substantive test.
C Cutoff test.
D Statistical test.

<5-13>

**The correct answer is A**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

An auditor examines a sample of copies of sales invoices for the initials of the person who verified the quantitative data. This is an example of a;

A Test of controls.
B Substantive test.
C Cutoff test.
D Statistical test.

**The correct answer is A**

50.0% of students answered **A** and were, therefore, **correct**.
42.9% of students answered **B** and were, therefore, **incorrect**.
0.0% of students answered **C** and were, therefore, **incorrect**.
7.1% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

An auditor examines a sample of copies of sales invoices for the initials of the person who verified the quantitative data. This is an example of a;

A Test of controls.
B Substantive test.
C Cutoff test.
D Statistical test.

**The correct answer is A**

The answer provided by student A was D and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following statements best describes the distinction between the auditor's and management's responsibilities?

A Management has responsibility for the basic data underlying financial statements, and the auditor has responsibility for drafting the financial report.

B Management has responsibility for maintaining and adopting sound accounting policies, and the auditor has responsibility for establishing and maintaining the internal control structure.

C The auditor's responsibility is confined to the audited portion of the financial report, and the management's responsibility is confined to the unaudited portions.

D The auditor's responsibility is confined to expressing an opinion, but the financial report remains the responsibility of management.

<1-8>

**The correct answer is D**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following statements best describes the distinction between the auditor's and management's responsibilities?

A Management has responsibility for the basic data underlying financial statements, and the auditor has responsibility for drafting the financial report.

B Management has responsibility for maintaining and adopting sound accounting policies, and the auditor has responsibility for establishing and maintaining the internal control structure.

C The auditor's responsibility is confined to the audited portion of the financial report, and the management's responsibility is confined to the unaudited portions.

D The auditor's responsibility is confined to expressing an opinion, but the financial report remains the responsibility of management.

**The correct answer is D**

0.0% of students answered **A** and were, therefore, **incorrect.**
0.0% of students answered **B** and were, therefore, **incorrect.**
3.6% of students answered **C** and were, therefore, **incorrect.**
96.4% of students answered **D** and were, therefore, **correct.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following statements best describes the distinction between the auditor's and management's responsibilities?

A Management has responsibility for the basic data underlying financial statements, and the auditor has responsibility for drafting the financial report.

B Management has responsibility for maintaining and adopting sound accounting policies, and the auditor has responsibility for establishing and maintaining the internal control structure.

C The auditor's responsibility is confined to the audited portion of the financial report, and the management's responsibility is confined to the unaudited portions.

D The auditor's responsibility is confined to expressing an opinion, but the financial report remains the responsibility of management.

**The correct answer is D**

The answer provided by student A was D and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was D and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following statements best explains why the auditing profession has found it essential to promulgate ethical standards and to establish means for ensuring their observance?

A Vigorous enforcement of an established code of ethics is the best way to prevent unscrupulous acts.

B Ethical standards that emphasise excellence in performance over material rewards establish a reputation for competence and character.

C A distinguishing mark of a profession is its acceptance of responsibility to the public.

D A requirement for a profession is to establish ethical standards that stress primarily a responsibility to clients and colleagues.

<2-9>

**The correct answer is D**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following statements best explains why the auditing profession has found it essential to promulgate ethical standards and to establish means for ensuring their observance?

A Vigorous enforcement of an established code of ethics is the best way to prevent unscrupulous acts.
B Ethical standards that emphasise excellence in performance over material rewards establish a reputation for competence and character.
C A distinguishing mark of a profession is its acceptance of responsibility to the public.
D A requirement for a profession is to establish ethical standards that stress primarily a responsibility to clients and colleagues.

**The correct answer is D**

28.6% of students answered **A** and were, therefore, **incorrect.**
25.0% of students answered **B** and were, therefore, **incorrect.**
28.6% of students answered **C** and were, therefore, **incorrect.**
17.8% of students answered **D** and were, therefore, **correct.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following statements best explains why the auditing profession has found it essential to promulgate ethical standards and to establish means for ensuring their observance?

A Vigorous enforcement of an established code of ethics is the best way to prevent unscrupulous acts.
B Ethical standards that emphasise excellence in performance over material rewards establish a reputation for competence and character.
C A distinguishing mark of a profession is its acceptance of responsibility to the public.
D A requirement for a profession is to establish ethical standards that stress primarily a responsibility to clients and colleagues.

**The correct answer is D**

The answer provided by student A was A and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

When reviewing a loan agreement to ascertain the bank's security over any of the client's assets, the audit assertion being achieved is;

A Valuation.
B Completeness.
C Rights and obligations.
D Disclosure.

<5-20>

**The correct answer is D**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
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*Common to all conditions*

<ID Code>

# Feedback

When reviewing a loan agreement to ascertain the bank's security over any of the client's assets, the audit assertion being achieved is;

A Valuation.
B Completeness.
C Rights and obligations.
D Disclosure.

**The correct answer is D**

10.7% of students answered **A** and were, therefore, **incorrect.**
21.4% of students answered **B** and were, therefore, **incorrect.**
53.6% of students answered **C** and were, therefore, **incorrect.**
14.3% of students answered **D** and were, therefore, **correct.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

When reviewing a loan agreement to ascertain the bank's security over any of the client's assets, the audit assertion being achieved is;

A Valuation.
B Completeness.
C Rights and obligations.
D Disclosure.

**The correct answer is D**

The answer provided by student A was B and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

All of the following are advantages of PPS sampling except;

A Large items have a higher probability of selection.
B It is not necessary to estimate the standard deviation of the population.
C Understated items have a lower probability of selection.
D Several account balances can be confirmed and treated as one population.

<11-42>

**The correct answer is D**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
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*Common to all conditions*

<ID Code>

# Feedback

All of the following are advantages of PPS sampling except;

A Large items have a higher probability of selection.
B It is not necessary to estimate the standard deviation of the population.
C Understated items have a lower probability of selection.
D Several account balances can be confirmed and treated as one population.

**The correct answer is D**

10.7% of students answered **A** and were, therefore, **incorrect.**
17.8% of students answered **B** and were, therefore, **incorrect.**
28.6% of students answered **C** and were, therefore, **incorrect.**
42.9% of students answered **D** and were, therefore, **correct.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

All of the following are advantages of PPS sampling except;

A Large items have a higher probability of selection.
B It is not necessary to estimate the standard deviation of the population.
C Understated items have a lower probability of selection.
D Several account balances can be confirmed and treated as one population.

**The correct answer is D**

The answer provided by student A was D and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

The answer provided by student B was C and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Independent auditors perform audits on the financial reports of public companies. This type of auditing can best be described as;

A An activity whose purpose is to search for irregularities.
B A discipline that attests to financial information presented by management.
C A professional activity that measures and communicates financial and business data.
D A regulatory function that prevents the issuance of improper financial information.

<1-3>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Independent auditors perform audits on the financial reports of public companies. This type of auditing can best be described as;

A An activity whose purpose is to search for irregularities.
B A discipline that attests to financial information presented by management.
C A professional activity that measures and communicates financial and business data.
D A regulatory function that prevents the issuance of improper financial information.

**The correct answer is B**

7.2% of students answered **A** and were, therefore, **incorrect.**
32.1% of students answered **B** and were, therefore, **correct.**
21.4% of students answered **C** and were, therefore, **incorrect.**
39.3% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Independent auditors perform audits on the financial reports of public companies. This type of auditing can best be described as;

A An activity whose purpose is to search for irregularities.
B A discipline that attests to financial information presented by management.
C A professional activity that measures and communicates financial and business data.
D A regulatory function that prevents the issuance of improper financial information.

**The correct answer is B**

The answer provided by student A was D and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was D and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

'Dual purpose tests' is a term used for;

A Tests of controls that address both the design of the control procedures and their operating effectiveness.
B Tests of transactions that include substantive procedures as well as tests of controls.
C Tests that address both balances and transaction classes.
D Tests performed because of client expectations as well as for gathering audit evidence.

<5-29>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

'Dual purpose tests' is a term used for;

A Tests of controls that address both the design of the control procedures and their operating effectiveness.
B Tests of transactions that include substantive procedures as well as tests of controls.
C Tests that address both balances and transaction classes.
D Tests performed because of client expectations as well as for gathering audit evidence.

**The correct answer is B**

10.7% of students answered **A** and were, therefore, **incorrect.**
71.4% of students answered **B** and were, therefore, **correct.**
10.7% of students answered **C** and were, therefore, **incorrect.**
7.2% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

'Dual purpose tests' is a term used for;

A Tests of controls that address both the design of the control procedures and their operating effectiveness.
B Tests of transactions that include substantive procedures as well as tests of controls.
C Tests that address both balances and transaction classes.
D Tests performed because of client expectations as well as for gathering audit evidence.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Tests of controls are performed to determine whether or not;

A Control policies and procedures are functioning as designed.
B Necessary controls are absent.
C Incompatible functions exist.
D Material dollar misstatements exist.

<8-18>

**The correct answer is A**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Tests of controls are performed to determine whether or not;

A Control policies and procedures are functioning as designed.
B Necessary controls are absent.
C Incompatible functions exist.
D Material dollar misstatements exist.

**The correct answer is A**

89.3% of students answered **A** and were, therefore, **correct**.
7.1% of students answered **B** and were, therefore, **incorrect**.
3.6% of students answered **C** and were, therefore, **incorrect**.
0.0% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Tests of controls are performed to determine whether or not;

A Control policies and procedures are functioning as designed.
B Necessary controls are absent.
C Incompatible functions exist.
D Material dollar misstatements exist.

**The correct answer is A**

The answer provided by student A was A and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

I am certain that the student would have answered the question incorrectly 0 1 2 3 4 5 6 7 8 9 10 I am certain that the student would have answered the question correctly

The answer provided by student B was A and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

I am certain that the student would have answered the question incorrectly 0 1 2 3 4 5 6 7 8 9 10 I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following internal control structure features would an auditor be least likely to review?

A Segregation of the asset-handling and record keeping functions.
B Company policy regarding credit and collection efforts.
C Sales and records classified by products.
D Authorisation of additions to plant and equipment.

<8-23>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following internal control structure features would an auditor be least likely to review?

A Segregation of the asset-handling and record keeping functions.
B Company policy regarding credit and collection efforts.
C Sales and records classified by products.
D Authorisation of additions to plant and equipment.

**The correct answer is C**

10.7% of students answered **A** and were, therefore, **incorrect**.
17.9% of students answered **B** and were, therefore, **incorrect**.
60.7% of students answered **C** and were, therefore, **correct**.
10.7% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following internal control structure features would an auditor be least likely to review?

A Segregation of the asset-handling and record keeping functions.
B Company policy regarding credit and collection efforts.
C Sales and records classified by products.
D Authorisation of additions to plant and equipment.

**The correct answer is C**

The answer provided by student A was B and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was C and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

An auditor would place most reliance on the results of analytical procedures when there is;

A Material balance, low inherent risk, low control risk.
B Immaterial balance, high inherent risk, high control risk.
C Material balance, low inherent risk, high control risk.
D Immaterial balance, low inherent risk, low control risk.

<6-27>

**The correct answer is D**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

An auditor would place most reliance on the results of analytical procedures when there is;

A Material balance, low inherent risk, low control risk.
B Immaterial balance, high inherent risk, high control risk.
C Material balance, low inherent risk, high control risk.
D Immaterial balance, low inherent risk, low control risk.

**The correct answer is D**

53.5% of students answered **A** and were, therefore, **incorrect**.
10.7% of students answered **B** and were, therefore, **incorrect**.
17.9% of students answered **C** and were, therefore, **incorrect**.
17.9% of students answered **D** and were, therefore, **correct**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

An auditor would place most reliance on the results of analytical procedures when there is;

A Material balance, low inherent risk, low control risk.
B Immaterial balance, high inherent risk, high control risk.
C Material balance, low inherent risk, high control risk.
D Immaterial balance, low inherent risk, low control risk.

**The correct answer is D**

The answer provided by student A was A and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

The primary purpose of establishing quality control policies and procedures for deciding whether to accept a new client is to;

A Enable the audit firm to attest to the reliability of the client.
B Satisfy the audit firm's duty to the public concerning the acceptance of new clients.
C Minimise the likelihood of association with clients whose management lacks integrity.
D Anticipate before performing any field work whether an unqualified opinion can be expressed.

<2-12>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

The primary purpose of establishing quality control policies and procedures for deciding whether to accept a new client is to;

A Enable the audit firm to attest to the reliability of the client.
B Satisfy the audit firm's duty to the public concerning the acceptance of new clients.
C Minimise the likelihood of association with clients whose management lacks integrity.
D Anticipate before performing any field work whether an unqualified opinion can be expressed.

**The correct answer is C**

21.4% of students answered **A** and were, therefore, **incorrect.**
17.9% of students answered **B** and were, therefore, **incorrect.**
53.6% of students answered **C** and were, therefore, **correct.**
7.1% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

The primary purpose of establishing quality control policies and procedures for deciding whether to accept a new client is to;

A Enable the audit firm to attest to the reliability of the client.
B Satisfy the audit firm's duty to the public concerning the acceptance of new clients.
C Minimise the likelihood of association with clients whose management lacks integrity.
D Anticipate before performing any field work whether an unqualified opinion can be expressed.

**The correct answer is C**

The answer provided by student A was C and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Your client is a manufacturer of CD's and music tapes. Theft has been an ongoing problem. The key audit risk to be addressed at year end is;

A Valuation of inventory.
B Existence of inventory.
C Rights and obligations in relation to inventory.
D Completeness of inventory.

<5-1>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Your client is a manufacturer of CD's and music tapes. Theft has been an ongoing problem. The key audit risk to be addressed at year end is;

A Valuation of inventory.
B Existence of inventory.
C Rights and obligations in relation to inventory.
D Completeness of inventory.

**The correct answer is B**

7.2% of students answered **A** and were, therefore, **incorrect.**
64.3% of students answered **B** and were, therefore, **correct.**
7.1% of students answered **C** and were, therefore, **incorrect.**
21.4% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Your client is a manufacturer of CD's and music tapes. Theft has been an ongoing problem. The key audit risk to be addressed at year end is;

A Valuation of inventory.
B Existence of inventory.
C Rights and obligations in relation to inventory.
D Completeness of inventory.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

The extent of substantive tests for an assertion in relation to the assessed level of inherent risk varies in a relationship that is ordinarily;

A Opposite.
B Inverse.
C Direct.
D Unequal.

<7-5>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

The extent of substantive tests for an assertion in relation to the assessed level of inherent risk varies in a relationship that is ordinarily;

A Opposite.
B Inverse.
C Direct.
D Unequal.

**The correct answer is C**

21.4% of students answered **A** and were, therefore, **incorrect**.
32.1% of students answered **B** and were, therefore, **incorrect**.
28.6% of students answered **C** and were, therefore, **correct**.
17.9% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

The extent of substantive tests for an assertion in relation to the assessed level of inherent risk varies in a relationship that is ordinarily;

A Opposite.
B Inverse.
C Direct.
D Unequal.

**The correct answer is C**

The answer provided by student A was B and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was C and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following is appropriate in the selection of a statistical audit sample?

A Haphazard selection.
B Random selection.
C Block selection.
D Judgmental selection.

<11-3>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following is appropriate in the selection of a statistical audit sample?

A Haphazard selection.
B Random selection.
C Block selection.
D Judgmental selection.

**The correct answer is B**

7.1% of students answered **A** and were, therefore, **incorrect.**
78.6% of students answered **B** and were, therefore, **correct.**
3.6% of students answered **C** and were, therefore, **incorrect.**
10.7% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following is appropriate in the selection of a statistical audit sample?

A Haphazard selection.
B Random selection.
C Block selection.
D Judgmental selection.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following statements is true?

A The risk that material misstatement will not be prevented or detected on a timely basis by the internal control structure can be reduced to zero by effective control activities.

B Cash is more susceptible to theft than an inventory of coal because it has greater inherent risk.

C Detection risk is a function of the efficiency of an auditing procedure.

D The existing levels of inherent risk, control risk, and detection risk can be changed at the discretion of the auditor.

<7-22>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following statements is true?

A The risk that material misstatement will not be prevented or detected on a timely basis by the internal control structure can be reduced to zero by effective control activities.
B Cash is more susceptible to theft than an inventory of coal because it has greater inherent risk.
C Detection risk is a function of the efficiency of an auditing procedure.
D The existing levels of inherent risk, control risk, and detection risk can be changed at the discretion of the auditor.

**The correct answer is B**

7.1% of students answered **A** and were, therefore, **incorrect**.
85.7% of students answered **B** and were, therefore, **correct**.
3.6% of students answered **C** and were, therefore, **incorrect**.
3.6% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following statements is true?

A The risk that material misstatement will not be prevented or detected on a timely basis by the internal control structure can be reduced to zero by effective control activities.
B Cash is more susceptible to theft than an inventory of coal because it has greater inherent risk.
C Detection risk is a function of the efficiency of an auditing procedure.
D The existing levels of inherent risk, control risk, and detection risk can be changed at the discretion of the auditor.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

In which of the following situations would an entity be assessed as having high inherent risk?

A Management who helped establish the company 10 years ago are still in place.
B Rapid growth in the US economy has led to increased export sales.
C The company's engineering product has a patent that will expire in 10 year's time.
D The company has just appointed an audit committee.

<7-18>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

In which of the following situations would an entity be assessed as having high inherent risk?

A Management who helped establish the company 10 years ago are still in place.
B Rapid growth in the US economy has led to increased export sales.
C The company's engineering product has a patent that will expire in 10 year's time.
D The company has just appointed an audit committee.

**The correct answer is B**

35.7% of students answered **A** and were, therefore, **incorrect.**
42.9% of students answered **B** and were, therefore, **correct.**
0.0% of students answered **C** and were, therefore, **incorrect.**
21.4% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

In which of the following situations would an entity be assessed as having high inherent risk?

A Management who helped establish the company 10 years ago are still in place.
B Rapid growth in the US economy has led to increased export sales.
C The company's engineering product has a patent that will expire in 10 year's time.
D The company has just appointed an audit committee.

**The correct answer is B**

The answer provided by student A was A and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Most of the independent auditor's work in formulating an opinion on a financial report consists of;

A Obtaining an understanding of the internal control structure.
B Obtaining and examining audit evidence.
C Examining cash transactions.
D Comparing recorded accountability with assets.

<5-11>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Most of the independent auditor's work in formulating an opinion on a financial report consists of;

A Obtaining an understanding of the internal control structure.
B Obtaining and examining audit evidence.
C Examining cash transactions.
D Comparing recorded accountability with assets.

**The correct answer is B**

14.3% of students answered **A** and were, therefore, **incorrect**.
78.5% of students answered **B** and were, therefore, **correct**.
3.6% of students answered **C** and were, therefore, **incorrect**.
3.6% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Most of the independent auditor's work in formulating an opinion on a financial report consists of;

A Obtaining an understanding of the internal control structure.
B Obtaining and examining audit evidence.
C Examining cash transactions.
D Comparing recorded accountability with assets.

**The correct answer is B**

The answer provided by student A was A and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

A client erroneously recorded a large purchase twice. Which of the following control measures would be the most likely to detect this error in a timely and efficient manner?

A Footing the purchases journal.
B Reconciling suppliers monthly statements with subsidiary accounts payable ledger accounts.
C Tracing totals from the purchases journal to the ledger accounts.
D Sending written quarterly confirmations to all suppliers.

<9-22>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

A client erroneously recorded a large purchase twice. Which of the following control measures would be the most likely to detect this error in a timely and efficient manner?

A Footing the purchases journal.
B Reconciling suppliers monthly statements with subsidiary accounts payable ledger accounts.
C Tracing totals from the purchases journal to the ledger accounts.
D Sending written quarterly confirmations to all suppliers.

**The correct answer is B**

7.1% of students answered **A** and were, therefore, **incorrect**.
46.4% of students answered **B** and were, therefore, **correct**.
42.9% of students answered **C** and were, therefore, **incorrect**.
3.6% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

A client erroneously recorded a large purchase twice. Which of the following control measures would be the most likely to detect this error in a timely and efficient manner?

A Footing the purchases journal.
B Reconciling suppliers monthly statements with subsidiary accounts payable ledger accounts.
C Tracing totals from the purchases journal to the ledger accounts.
D Sending written quarterly confirmations to all suppliers.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was D and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Your audit client has a new management incentive scheme in place with the bonus calculated on the basis of the increase in net profit over the previous year. The basis of the bonus will remain the same for the next three years. Your client has had a poor year and will not meet its budget or last year's net profit. Which of the following represents an inherent risk?

A Insufficient provisions.
B Next year's expenses taken up this year.
C Next year's sales incorrectly taken up this year.
D Overstatement of debtors.

<7-25>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Your audit client has a new management incentive scheme in place with the bonus calculated on the basis of the increase in net profit over the previous year. The basis of the bonus will remain the same for the next three years. Your client has had a poor year and will not meet its budget or last year's net profit. Which of the following represents an inherent risk?

A Insufficient provisions.
B Next year's expenses taken up this year.
C Next year's sales incorrectly taken up this year.
D Overstatement of debtors.

**The correct answer is B**

28.6% of students answered **A** and were, therefore, **incorrect.**
25.0% of students answered **B** and were, therefore, **correct.**
32.1% of students answered **C** and were, therefore, **incorrect.**
14.3% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Your audit client has a new management incentive scheme in place with the bonus calculated on the basis of the increase in net profit over the previous year. The basis of the bonus will remain the same for the next three years. Your client has had a poor year and will not meet its budget or last year's net profit. Which of the following represents an inherent risk?

A Insufficient provisions.
B Next year's expenses taken up this year.
C Next year's sales incorrectly taken up this year.
D Overstatement of debtors.

**The correct answer is B**

The answer provided by student A was C and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following is not a red flag of a predisposition to material misrepresentations?

A Senior accounting personnel turnover is high.
B Error reports generated by the accounting system indicate many mistakes in the input of accounting data.
C Management operating and financing decisions are dominated by a single person.
D Matters are present that raise doubt about the entity's ability to continue as a going concern.

<7-7>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following is not a red flag of a predisposition to material misrepresentations?

A Senior accounting personnel turnover is high.
B Error reports generated by the accounting system indicate many mistakes in the input of accounting data.
C Management operating and financing decisions are dominated by a single person.
D Matters are present that raise doubt about the entity's ability to continue as a going concern.

**The correct answer is B**

17.8% of students answered **A** and were, therefore, **incorrect**.
28.6% of students answered **B** and were, therefore, **correct**.
25.0% of students answered **C** and were, therefore, **incorrect**.
28.6% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following is not a red flag of a predisposition to material misrepresentations?

A Senior accounting personnel turnover is high.
B Error reports generated by the accounting system indicate many mistakes in the input of accounting data.
C Management operating and financing decisions are dominated by a single person.
D Matters are present that raise doubt about the entity's ability to continue as a going concern.

**The correct answer is B**

The answer provided by student A was C and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following is not a substantive test?

A Analytical procedures.
B Tests of controls.
C Direct tests of balances.
D Confirmation of bank balances at year end.

<7-1>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
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*Common to all conditions*

<ID Code>

# Feedback

Which of the following is not a substantive test?

A Analytical procedures.
B Tests of controls.
C Direct tests of balances.
D Confirmation of bank balances at year end.

**The correct answer is B**

14.3% of students answered **A** and were, therefore, **incorrect.**
78.5% of students answered **B** and were, therefore, **correct.**
3.6% of students answered **C** and were, therefore, **incorrect.**
3.6% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following is not a substantive test?

A Analytical procedures.
B Tests of controls.
C Direct tests of balances.
D Confirmation of bank balances at year end.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

When considering internal control, an auditor must be aware of the concept of reasonable assurance which recognises that the;

A Employment of competent personnel provides assurance that the objectives of internal control will be achieved.
B Establishment and maintenance of an internal control structure is an important responsibility of the management and not the auditor.
C Cost of internal control should not exceed the benefits expected to be derived from internal control.
D Segregation of duties is necessary to ascertain that the internal control structure elements are effective.

<8-10>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

When considering internal control, an auditor must be aware of the concept of reasonable assurance which recognises that the;

A Employment of competent personnel provides assurance that the objectives of internal control will be achieved.
B Establishment and maintenance of an internal control structure is an important responsibility of the management and not the auditor.
C Cost of internal control should not exceed the benefits expected to be derived from internal control.
D Segregation of duties is necessary to ascertain that the internal control structure elements are effective.

**The correct answer is C**

7.2% of students answered **A** and were, therefore, **incorrect**.
46.4% of students answered **B** and were, therefore, **incorrect**.
25.0% of students answered **C** and were, therefore, **correct**.
21.4% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

When considering internal control, an auditor must be aware of the concept of reasonable assurance which recognises that the;

A Employment of competent personnel provides assurance that the objectives of internal control will be achieved.
B Establishment and maintenance of an internal control structure is an important responsibility of the management and not the auditor.
C Cost of internal control should not exceed the benefits expected to be derived from internal control.
D Segregation of duties is necessary to ascertain that the internal control structure elements are effective.

**The correct answer is C**

The answer provided by student A was B and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was D and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

An auditor assesses the level of control risk in order to;

A Determine the extent of tests of controls to be performed.
B Determine the extent of substantive tests to be performed.
C Ascertain whether irregularities are probable.
D Ascertain whether any employees have incompatible duties.

<8-30>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

An auditor assesses the level of control risk in order to;

A Determine the extent of tests of controls to be performed.
B Determine the extent of substantive tests to be performed.
C Ascertain whether irregularities are probable.
D Ascertain whether any employees have incompatible duties.

**The correct answer is B**

21.4% of students answered **A** and were, therefore, **incorrect.**
67.9% of students answered **B** and were, therefore, **correct.**
7.1% of students answered **C** and were, therefore, **incorrect.**
3.6% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

An auditor assesses the level of control risk in order to;

A Determine the extent of tests of controls to be performed.
B Determine the extent of substantive tests to be performed.
C Ascertain whether irregularities are probable.
D Ascertain whether any employees have incompatible duties.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

It would not be appropriate to use dollar unit sampling as a selection method as the primary source of evidence for;

A Plant and machinery.
B Accounts payable.
C Payroll expenses.
D Accounts receivable.

<11-10>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

It would not be appropriate to use dollar unit sampling as a selection method as the primary source of evidence for;

A Plant and machinery.
B Accounts payable.
C Payroll expenses.
D Accounts receivable.

**The correct answer is B**

67.9% of students answered **A** and were, therefore, **incorrect**.
17.8% of students answered **B** and were, therefore, **correct**.
10.7% of students answered **C** and were, therefore, **incorrect**.
3.6% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

It would not be appropriate to use dollar unit sampling as a selection method as the primary source of evidence for;

A Plant and machinery.
B Accounts payable.
C Payroll expenses.
D Accounts receivable.

**The correct answer is B**

The answer provided by student A was A and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following is ordinarily considered a test of controls?

A Send confirmation letters to banks.
B Count and list cash on hand.
C Examine signatures on cheques.
D Obtain or prepare reconciliations of bank accounts as of the balance date.

<8-28>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following is ordinarily considered a test of controls?

A Send confirmation letters to banks.
B Count and list cash on hand.
C Examine signatures on cheques.
D Obtain or prepare reconciliations of bank accounts as of the balance date.

**The correct answer is C**

0.0% of students answered **A** and were, therefore, **incorrect.**
10.7% of students answered **B** and were, therefore, **incorrect.**
89.3% of students answered **C** and were, therefore, **correct.**
0.0% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following is ordinarily considered a test of controls?

A Send confirmation letters to banks.
B Count and list cash on hand.
C Examine signatures on cheques.
D Obtain or prepare reconciliations of bank accounts as of the balance date.

**The correct answer is C**

The answer provided by student A was B and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was C and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Early appointment of the auditor enables preliminary work to be performed by the auditor which benefits the client in that it permits the audit to be performed in;

A A more efficient manner.
B A more thorough manner.
C Accordance with quality control standards.
D Accordance with generally accepted auditing standards.

<5-25>

**The correct answer is A**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Early appointment of the auditor enables preliminary work to be performed by the auditor which benefits the client in that it permits the audit to be performed in;

A A more efficient manner.
B A more thorough manner.
C Accordance with quality control standards.
D Accordance with generally accepted auditing standards.

**The correct answer is A**

25.0% of students answered **A** and were, therefore, **correct**.
21.4% of students answered **B** and were, therefore, **incorrect**.
32.2% of students answered **C** and were, therefore, **incorrect**.
21.4% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly 0 1 2 3 4 5 6 7 8 9 10 I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly 0 1 2 3 4 5 6 7 8 9 10 I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Early appointment of the auditor enables preliminary work to be performed by the auditor which benefits the client in that it permits the audit to be performed in;

A A more efficient manner.
B A more thorough manner.
C Accordance with quality control standards.
D Accordance with generally accepted auditing standards.

**The correct answer is A**

The answer provided by student A was C and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Whenever negative assurance is provided by an auditor, it is based upon;

A An absence of disconfirming evidence.
B A presence of substantiating evidence.
C An objective audit in accordance with the auditing standards.
D A judgmental determination in accordance with guidelines promulgated by the accounting bodies.

<15-5>

**The correct answer is A**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Whenever negative assurance is provided by an auditor, it is based upon;

A An absence of disconfirming evidence.
B A presence of substantiating evidence.
C An objective audit in accordance with the auditing standards.
D A judgmental determination in accordance with guidelines promulgated by the accounting bodies.

**The correct answer is A**

39.3% of students answered **A** and were, therefore, **correct**.
25.0% of students answered **B** and were, therefore, **incorrect**.
14.3% of students answered **C** and were, therefore, **incorrect**.
21.4% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Whenever negative assurance is provided by an auditor, it is based upon;

A An absence of disconfirming evidence.
B A presence of substantiating evidence.
C An objective audit in accordance with the auditing standards.
D A judgmental determination in accordance with guidelines promulgated by the accounting bodies.

**The correct answer is A**

The answer provided by student A was A and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

How does the extent of substantive tests required to constitute sufficient appropriate audit evidence vary with the auditor's assessment of control risk?

A Randomly.
B Disproportionately.
C Directly.
D Inversely.

<8-40>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

How does the extent of substantive tests required to constitute sufficient appropriate audit evidence vary with the auditor's assessment of control risk?

A Randomly.
B Disproportionately.
C Directly.
D Inversely.

**The correct answer is C**

0.0% of students answered **A** and were, therefore, **incorrect.**
3.6% of students answered **B** and were, therefore, **incorrect.**
39.3% of students answered **C** and were, therefore, **correct.**
57.1% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

How does the extent of substantive tests required to constitute sufficient appropriate audit evidence vary with the auditor's assessment of control risk?

A Randomly.
B Disproportionately.
C Directly.
D Inversely.

**The correct answer is C**

The answer provided by student A was D and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was C and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

The audit trail includes all of the following except;

A Journals and journal files.
B Segregation of duties.
C Ledgers and ledger files.
D Source documents and transaction files.

<8-3>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

The audit trail includes all of the following except;

A Journals and journal files.
B Segregation of duties.
C Ledgers and ledger files.
D Source documents and transaction files.

**The correct answer is B**

0.0% of students answered **A** and were, therefore, **incorrect.**
89.3% of students answered **B** and were, therefore, **correct.**
7.1% of students answered **C** and were, therefore, **incorrect.**
3.6% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

The audit trail includes all of the following except;

A Journals and journal files.
B Segregation of duties.
C Ledgers and ledger files.
D Source documents and transaction files.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

When using a statistical sampling plan, the auditor would probably require a smaller sample if the;

A Population increases.
B Desired tolerable level of misstatement decreases.
C Desired risk of incorrect acceptance increases.
D Expected deviation rate increases.

<11-9>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

When using a statistical sampling plan, the auditor would probably require a smaller sample if the;

A Population increases.
B Desired tolerable level of misstatement decreases.
C Desired risk of incorrect acceptance increases.
D Expected deviation rate increases.

**The correct answer is C**

3.6% of students answered **A** and were, therefore, **incorrect**.
35.7% of students answered **B** and were, therefore, **incorrect**.
42.9% of students answered **C** and were, therefore, **correct**.
17.8% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

When using a statistical sampling plan, the auditor would probably require a smaller sample if the;

A Population increases.
B Desired tolerable level of misstatement decreases.
C Desired risk of incorrect acceptance increases.
D Expected deviation rate increases.

**The correct answer is C**

The answer provided by student A was D and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was D and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following accounts should be reviewed by the auditor to gain reasonable assurance that additions to property plant and equipment are not understated?

A Depreciation.
B Accounts Payable.
C Cash.
D Repairs.

<9-30>

**The correct answer is D**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following accounts should be reviewed by the auditor to gain reasonable assurance that additions to property plant and equipment are not understated?

A Depreciation.
B Accounts Payable.
C Cash.
D Repairs.

**The correct answer is D**

67.9% of students answered **A** and were, therefore, **incorrect**.
7.1% of students answered **B** and were, therefore, **incorrect**.
0.0% of students answered **C** and were, therefore, **incorrect**.
25.0% of students answered **D** and were, therefore, **correct**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following accounts should be reviewed by the auditor to gain reasonable assurance that additions to property plant and equipment are not understated?

A Depreciation.
B Accounts Payable.
C Cash.
D Repairs.

**The correct answer is D**

The answer provided by student A was A and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was D and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

The use of analytical review as a substantive test will be limited if;

A Detection risk is assessed as high.
B Inherent risk is assessed as low.
C Control risk is assessed as high.
D Audit risk is assessed as low.

<6-31>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

The use of analytical review as a substantive test will be limited if;

A Detection risk is assessed as high.
B Inherent risk is assessed as low.
C Control risk is assessed as high.
D Audit risk is assessed as low.

**The correct answer is C**

25.0% of students answered **A** and were, therefore, **incorrect.**
10.7% of students answered **B** and were, therefore, **incorrect.**
50.0% of students answered **C** and were, therefore, **correct.**
14.3% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

The use of analytical review as a substantive test will be limited if;

A Detection risk is assessed as high.
B Inherent risk is assessed as low.
C Control risk is assessed as high.
D Audit risk is assessed as low.

**The correct answer is C**

The answer provided by student A was B and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was C and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

An independent auditor finds that Stoneyhill Ltd occupies office space, at no charge, in an office building owned by a shareholder. This finding indicates the existence of;

A Management fraud.
B Related-party transactions.
C Window dressing.
D Deficiencies in internal control structure.

<6-17>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

An independent auditor finds that Stoneyhill Ltd occupies office space, at no charge, in an office building owned by a shareholder. This finding indicates the existence of;

A Management fraud.
B Related-party transactions.
C Window dressing.
D Deficiencies in internal control structure.

**The correct answer is B**

0.0% of students answered **A** and were, therefore, **incorrect**.
67.8% of students answered **B** and were, therefore, **correct**.
3.6% of students answered **C** and were, therefore, **incorrect**.
28.6% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

An independent auditor finds that Stoneyhill Ltd occupies office space, at no charge, in an office building owned by a shareholder. This finding indicates the existence of;

A Management fraud.
B Related-party transactions.
C Window dressing.
D Deficiencies in internal control structure.

**The correct answer is B**

The answer provided by student A was D and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Audit evidence can come in different forms with different degrees of persuasiveness. Which of the following is the least persuasive type of evidence?

A Documents mailed by outsiders to the auditor.
B Correspondence between auditor and vendors.
C Sales invoices inspected by the auditor.
D Computations made by the auditor.

<5-12>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Audit evidence can come in different forms with different degrees of persuasiveness. Which of the following is the least persuasive type of evidence?

A Documents mailed by outsiders to the auditor.
B Correspondence between auditor and vendors.
C Sales invoices inspected by the auditor.
D Computations made by the auditor.

**The correct answer is C**

25.0% of students answered **A** and were, therefore, **incorrect**.
21.4% of students answered **B** and were, therefore, **incorrect**.
32.2% of students answered **C** and were, therefore, **correct**.
21.4% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Audit evidence can come in different forms with different degrees of persuasiveness. Which of the following is the least persuasive type of evidence?

A Documents mailed by outsiders to the auditor.
B Correspondence between auditor and vendors.
C Sales invoices inspected by the auditor.
D Computations made by the auditor.

**The correct answer is C**

The answer provided by student A was C and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore incorrect.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following audit objectives relates primarily to the financial report assertion 'rights and obligations'?

A Inventories are properly classified in the balance sheet as current assets.
B Inventories exclude items billed to customers or owned by others.
C Slow moving, excess, defective and obsolete items included in inventories are properly identified.
D Inventory quantities include all products, materials, and supplies owned by the company.

<5-16>

**The correct answer is B**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following audit objectives relates primarily to the financial report assertion 'rights and obligations'?

A Inventories are properly classified in the balance sheet as current assets.
B Inventories exclude items billed to customers or owned by others.
C Slow moving, excess, defective and obsolete items included in inventories are properly identified.
D Inventory quantities include all products, materials, and supplies owned by the company.

**The correct answer is B**

3.6% of students answered **A** and were, therefore, **incorrect**.
60.7% of students answered **B** and were, therefore, **correct**.
7.1% of students answered **C** and were, therefore, **incorrect**.
28.6% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly — 0 1 2 3 4 5 6 7 8 9 10 — I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following audit objectives relates primarily to the financial report assertion 'rights and obligations'?

A Inventories are properly classified in the balance sheet as current assets.
B Inventories exclude items billed to customers or owned by others.
C Slow moving, excess, defective and obsolete items included in inventories are properly identified.
D Inventory quantities include all products, materials, and supplies owned by the company.

**The correct answer is B**

The answer provided by student A was B and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was B and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

Which of the following audit objectives does not relate primarily to the financial report assertion of 'completeness'?

A Inventories are reduced, when appropriate, to replacement cost or net realisable value.
B Inventory quantities include all products, materials, and supplies on hand.
C Inventory listings are accurately compiled, and the totals are properly included in the inventory accounts.
D Inventory quantities include products and materials owned by the company that are in transit or stored at outside locations.

<5-19>

**The correct answer is A**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

Which of the following audit objectives does not relate primarily to the financial report assertion of 'completeness'?

A Inventories are reduced, when appropriate, to replacement cost or net realisable value.
B Inventory quantities include all products, materials, and supplies on hand.
C Inventory listings are accurately compiled, and the totals are properly included in the inventory accounts.
D Inventory quantities include products and materials owned by the company that are in transit or stored at outside locations.

**The correct answer is A**

53.6% of students answered **A** and were, therefore, **correct**.
7.1% of students answered **B** and were, therefore, **incorrect**.
25.0% of students answered **C** and were, therefore, **incorrect**.
14.3% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

Which of the following audit objectives does not relate primarily to the financial report assertion of 'completeness'?

A Inventories are reduced, when appropriate, to replacement cost or net realisable value.
B Inventory quantities include all products, materials, and supplies on hand.
C Inventory listings are accurately compiled, and the totals are properly included in the inventory accounts.
D Inventory quantities include products and materials owned by the company that are in transit or stored at outside locations.

**The correct answer is A**

The answer provided by student A was A and was therefore correct.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

An auditor who is not independent may issue a;

A Compilation report.
B Review report.
C Performance audit report.
D Qualified audit opinion.

<15-6>

**The correct answer is A**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**
**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

An auditor who is not independent may issue a;

A Compilation report.
B Review report.
C Performance audit report.
D Qualified audit opinion.

**The correct answer is A**

46.4% of students answered **A** and were, therefore, **correct**.
14.3% of students answered **B** and were, therefore, **incorrect**.
21.4% of students answered **C** and were, therefore, **incorrect**.
17.9% of students answered **D** and were, therefore, **incorrect**.

Your estimated likelihood that student A would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Your estimated likelihood that student B would answer the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

An auditor who is not independent may issue a;

A Compilation report.
B Review report.
C Performance audit report.
D Qualified audit opinion.

**The correct answer is A**

The answer provided by student A was C and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was A and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the next question.**

*Individual Specific Feedback Condition*

<ID Code>

# Question

The WebTrust Seal of Assurance signifies to an e-commerce customer that;

A The privacy of the customer is guaranteed.
B The entity with whom the customer is dealing follows the best business practices.
C The business practices of the entity are disclosed and effective controls are maintained over transaction integrity and information protection.
D The integrity of transaction is guaranteed.

<15-20>

**The correct answer is C**

Refer to the student's name listed next to **student A** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Refer to the student's name listed next to **student B** on the blue card. What is the likelihood (probability) that this student would have answered the question correctly? Please provide your answer by circling the appropriate number on the following scale.

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please turn to the following page.**

**Please hand this sheet to the research assistant who will provide you with feedback.**

*Common to all conditions*

<ID Code>

# Feedback

The WebTrust Seal of Assurance signifies to an e-commerce customer that;

A The privacy of the customer is guaranteed.
B The entity with whom the customer is dealing follows the best business practices.
C The business practices of the entity are disclosed and effective controls are maintained over transaction integrity and information protection.
D The integrity of transaction is guaranteed.

**The correct answer is C**

14.3% of students answered **A** and were, therefore, **incorrect.**
7.1% of students answered **B** and were, therefore, **incorrect.**
71.5% of students answered **C** and were, therefore, **correct.**
7.1% of students answered **D** and were, therefore, **incorrect.**

Your estimated likelihood that student A would answer the question correctly was:

I am certain that the student would have answered the question incorrectly 0 1 2 3 4 5 6 7 8 9 10 I am certain that the student would have answered the question correctly

Your estimated likelihood that student B would answer the question correctly was:

I am certain that the student would have answered the question incorrectly 0 1 2 3 4 5 6 7 8 9 10 I am certain that the student would have answered the question correctly

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the general questionnaire.**

*Average Group Feedback Condition*

<ID Code>

# Feedback

The WebTrust Seal of Assurance signifies to an e-commerce customer that;

A The privacy of the customer is guaranteed.
B The entity with whom the customer is dealing follows the best business practices.
C The business practices of the entity are disclosed and effective controls are maintained over transaction integrity and information protection.
D The integrity of transaction is guaranteed.

**The correct answer is C**

The answer provided by student A was B and was therefore incorrect.

Your estimated likelihood that student A would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The answer provided by student B was C and was therefore correct.

Your estimated likelihood that student B would have answered the question correctly was:

| I am certain that the student would have answered the question incorrectly | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I am certain that the student would have answered the question correctly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Once you have completed reviewing this sheet, please hand it to the research assistant who will provide you with the general questionnaire.**

*Individual Specific Feedback Condition*

<ID Code>

# General Questionnaire

In order to help analyse the data provided, please answer the following questions.

1. Refer to the person whose name is recorded next to **student A** on the blue card. How familiar are you with the audit knowledge and ability of **student A**? Please provide your answer on the following scale.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all familiar | | | | | | | | Very familiar |

2. Refer to the person whose name is recorded next to **student B** on the blue card. How familiar are you with the audit knowledge and ability of **student B**? Please provide your answer on the following scale.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|---|---|---|---|---|---|---|---|---|
| Not at all familiar | | | | | | | | Very familiar |

3. Please provide your year of birth: _____

4. Gender (please tick the appropriate box)

Male
Female

**Thank you for your participation.**

*Common to all conditions*