ASSESSMENT REPORT

BHP315116 PSYCHOLOGY

It is recommended this report be read in conjunction with previous examination reports for BHP315116 and the 2019 examination paper, available on the TASC website.

General Comments

In all sections of the examination, the more successful candidates were well prepared to be able to demonstrate a thorough knowledge and understanding of the topics, perspectives, concepts examined, analysing and evaluating stimulus materials, providing relevant human research / empirical evidence as well as reference to classic studies.

Higher quality responses fully addressed all parameters of the specified question; were able to demonstrate knowledge with a well-constructed point of view, utilising the stimuli as a starting point to launch discussion of the question and incorporate research through a strong argument. More formulaic prepared responses were used by some candidates with a disregard of question specifics. It is important for candidates to read the exam paper carefully and answer what is asked of them.

Overall, candidates were able to apply relevant theory to the question they selected, enabling well-prepared candidates to excel. Candidates need to be mindful of the requirement of the question; namely to refer to the stimuli when answering the question, be sure to use correct examples, theories, theorists and supporting evidence. Stimuli were designed to act as a springboard for further discussion of the concepts the questions refer to, and were not meant to be the prime focus of the question.

There is no requirement to cite Grivas, or other texts for example, as an in-text reference.

Markers found it harder to read responses which were written in pencil, red or green ink. Candidates did not have marks reduced because of this, though.

Ethical concerns are still occurring with the Investigation Project and candidate names, school / colleges are still appearing on some reports contravening confidentiality, which was often stated in the report as being addressed. These must be removed (redacted) prior to submission.

The very small sample size in some investigations raises question about ethics relating to the methodology and validity of the primary research. Doing an experiment on one’s self really is not appropriate in this context.
Written Paper

Section A – Human Learning

Candidates are reminded to answer both parts of the question and not rely solely on animal studies for evidence as the unit topic is HUMAN learning. As such, emphasis should be placed on human applications and associated research.

Question 1 – Conditioning

The comprehension of conditioning concepts was generally pleasing. This question was well handled by many candidates; most were able to demonstrate their knowledge of the key terms of the learning theories and to include relevant evidence. Better responses included a full range of evidences, citing research studies, human applications and examples. It was clear many candidates had prepared thoroughly for this question, however it should be noted that some ‘formulaic’ responses became apparent.

Criterion 3
Most candidates defined learning and classical and operant conditioning and were able to at least outline the relevant concepts for both CC and OC and give mostly accurate psychological definitions, with in-depth explanations, of both concepts and process. All candidates are reminded to present a balanced response that effectively explains both CC and OC (there were many responses that only mentioned CC, for example). Criterion 3 was certainly more effectively attended to, though candidates should be mindful of listing. There were also simple mistakes made regarding the CC process; it would be recommended that candidates apply the key processes to an example, which could aid in demonstrating understanding.

Candidates who could also explain related concepts were rewarded. Weaker responses had pages detailing the early work of Pavlov, Skinner and Thorndike whilst stronger responses mentioned these only briefly before connecting them to human evidence in a well organised and logical manner. Weaker responses explained operant conditioning as learning via reinforcement, rather than providing further discussion on the consequences of a behaviour.

Stronger responses named and explained the components and gave a clear and concise explanation of the process involved in classical conditioning and then applied it to a human example, usually Little Albert and then Aversion Therapy, as per Stimulus 1.

Better responses discussed discrimination, generalisation and how the time between the neutral stimulus and the unconditioned stimulus must not be too great, and other conditions for conditioning to be effective. Similarly, some better responses discussed shaping and explained how the schedules of reinforcement can affect the strength of the learning and then showed the application of the process through a number of human studies.

Often candidates seemed to be stronger on the conceptual knowledge and lacked effective evaluation (critical thinking) of the application of conditioning.
A reminder for candidates that reinforcement is not about a behaviour being good or bad, desired or undesired, per se; it is purely whether the consequence of the behaviour increases or decreases the likelihood of the behaviour reoccurring. For example gambling, smoking and addiction in general are not good (in the long term at least), but are learned through reinforcement. Similarly, reinforcement and punishment are not always imposed by another person; reinforcement can be intrinsic or imposed by external stimuli other than people. The negative reinforcement when a person avoids going to the dentist because of a phobia, is internally reinforced by the feeling of anxiety and dread.

Criterion 7
Generally there was a good understanding that Stimulus 1 was classical conditioning and Stimulus 2 was operant conditioning.

In most cases both stimuli were used effectively to show meaning. Some candidates effectively used human applications of conditioning to discuss an array of empirical evidence and research – this was an excellent way to ensure human behaviour was discussed. Stronger responses were able to use the stimulus pieces a few times to illustrate their point in an accurate way before connecting them to both human examples and empirical evidence, demonstrating full understanding.

Too few candidates were able to offer an effective evaluation of the differences between, and similarities of, CC and OC as a means of comparing the two types of conditioning.

Candidates need to focus on how learning theories can be applied to human learning and when they do discuss animal experiments, they should do so briefly and then focus on how the knowledge from these animal studies can be applied to human learning. Weaker responses did little more than mention and name studies, whereas a strong approach was to link the topics and evidence to learning theories.

Stronger responses explicitly linked research to what it explains about operant and classical conditioning and how it applies to human learning.

Question 2 – Observational / Social Cognitive Learning

The nature of the question warranted that candidates explain the processes involved in observational learning and at least one other form of cognitive Learning. Transfer of learning was listed as a concept which some candidates chose as the other form of learning, but many chose to add in other cognitive theories. Candidates who performed well on this question were able to define and explain the concepts of cognitive learning with the stimuli and other knowledge gained through the course.

There were some very good responses which demonstrated candidates had prepared very carefully for this question.

Criterion 3
Candidates who did well on this question were able to identify and explain key concepts of cognitive theories, as well as apply them to the stimuli provided.

The key terms in Part (a) of the questions were utilised well in responses, although candidates need to ensure they are clearly defining the terms and not just allude to them. Weaker responses mostly mentioned them in correct context, but did not explain them, whilst stronger responses were able to add detail to the key concepts, including examples.
Stronger responses discussed real-life and symbolic models as well as the characteristics of the model. These candidates also indicated the model’s importance in vicarious conditioning, outlined vicarious reinforcement and punishment and linked this to a clear discussion of Stimulus 1. Weaker responses made mention of models only when discussing the Bobo doll experiment and briefly mentioned vicarious reinforcement.

Observational, insight, and latent learning were mostly discussed well, with stronger responses able to link these forms of cognitive learning with human applications, as well as critically evaluate the theories.

Many candidates chose to define transfer of learning, but not discuss it thoroughly as their second cognitive theory to analyse and critically evaluate. This highlighted a possible lack of understanding of transfer of learning in regards to cognitive learning. There was also a lack of understanding of the connection between transfer of learning and learning sets. Better responses provided detail on transfer of learning by referring to Harlow’s two choice discrimination problems and learning set, followed by examples of human learning transfer. An analysis of strengths and limitations of the cognitive learning theories discussed was also a feature of stronger responses.

Criterion 7
Nearly all candidates were able to use the stimuli to assist in their explanations of cognitive learning, using Stimulus 1 to assist in their explanation of observational learning, as well as the key concept of vicarious reinforcement, and Stimulus 2 in relation to the key concept of transfer of learning.

Most candidates recognised that Stimulus 1 could readily be linked in with a discussion on Bandura’s BoBo doll experiment, and so strengthened evidence in their responses by including both. Weaker responses occasionally confused what Stimulus 1 was showing; i.e. the graph was showing the imitative behaviour of children in response to the consequence the models received. Better responses used this stimulus to assist with their explanation of vicarious reinforcement.

Stronger responses were demonstrated by candidates able to use stimulus material, especially Stimulus 1, to illustrate the concepts, particularly the role of models and vicarious reinforcement in Observational Learning. These candidates were also able to link Stimulus 2 to examples of learning transfer, whilst referring to both positive and negative transfer.

Good use was made of Bandura’s research and better responses were able to include other studies demonstrating Observational learning such as Johnson’s study on television violence, Phillips on aggression and Suzuki. Many candidates would have benfitted from including human examples for the cognitive learning theories they chose to discuss. Some candidates provided extensive descriptions of Tolman's and Kohler's experiments and would have been better served reducing these and including human examples to demonstrate a clear understanding of these theories.

Section B—Individual Differences

Very few candidates introduced a discussion framework of what is meant by ‘individual differences’, from a psychological perspective. Discussing individual variability was attempted by ‘A’ rated answers, transitioning seamlessly to a brief outline of the nature versus nurture debate, and then, to extended explanations of genetic and environmental influences.
There was a discernible difference in the length and/or quality of responses from candidates who had prepared thoroughly for this section of the exam. Candidates must be prepared to go beyond the research given in the stimuli. In general, definitions for concepts could be improved.

**Question 3 – Gender**

Overall, candidates were able to provide analysis and evaluation of the theories of gender, as well as key studies. Stronger answers provided a balance between biological and social theories and, responses that provided an explanation of an interactionist approach produced a well-rounded explanation of genetics v. environment.

Candidates should be careful not to adopt terms and explanations presented in the stimuli as over-riding truth, but rather, consider the stance of these representations and how they support or challenge what they know about gender theories and terms. Stimulus 1 presented the notion of spectrums, which may have been new for some candidates who readily adopt this, without analysis in relation to known theories and studies.

**Criterion 1**
Solid responses were able to present biological differences in terms of hormones etc. and brain differences, and go on to discuss the impact of stereotypes and social learning theories. However, some candidates spent too much time explaining biological/nature differences to the detriment of the nurture/environmental aspects of gender. Good responses could include three well-explained environmental theories.

Responses which did not address the criterion adequately tended to diverge into presenting personal opinions of society's view of gender and its potentially damaging impact on young people. These responses discussed simplistic gender stereotypes at length, with a focus on social media and advertising as examples rather than addressing the issues through a psychological point of view.

Weaker responses placed too much emphasis on either theories or Stimulus 2 as a definitive explanation of individual differences.

**Criterion 7**
Good responses were able to balance the nature/nurture debate with appropriate citing of theories/theorists as supporting evidence. They also incorporated appropriate theories as supporting evidence when making links to each of the stimulus pieces.

Some candidates spent too much time explaining psychological experiments e.g. Baby X, or Reimer/Dr Money and the Batista family, instead of just citing it as supporting evidence.

Weaker responses resorted to just reiterating information cited in the stimuli.

Candidates, when referring to examples of stereotyping, often cited agents of Socialisation without use of key studies and theories to support this.
Question 4 – Intelligence

The broad exam question provided candidates the opportunity to demonstrate their understanding of the influences on intelligence. Stronger responses exhibited greater clarity in understanding of the influences and explained the evidence underpinning the influences on intelligence. Stronger responses also demonstrated critical analysis of the biological and environmental influences and the evidence.

Criterion 1
Stronger responses demonstrated a firm understanding of the biological and environmental influences on intelligence, and how these two interact. Many candidates defined enrichment and deprivation in relation to environmental influences on intelligence. Stronger responses integrated additional terms and concepts such as reaction range and intellectual potential.

There were some issues with the basic understanding of the three key concepts in part (a) especially with explaining the difference/s between heredity and biological influences.

Some responses neglected to define heredity, and many only provided a brief mention. The similarity of heredity to biological influences on intelligence was noted by examiners as being challenging for some candidates. Stronger responses clearly delineated the two terms.

There was scope for candidates to extrapolate quantitative evidences from Stimulus 1 to shape a strong evaluative account of the nature perspective. Stimulus 2 was less effectively used, perhaps under-utilised. Those candidates who used it well made connections to experience and learning; environmental aspects such as enriched and impoverished.

There were sufficient triggers from and upon which candidates might have discussed judiciously applied theory (re positive nurturance, cognitive enrichment through experiential play, brain plasticity), intelligence and gender etc, and, by way of oppositional theory, a range of deprivation and privation studies. Perhaps due in part to the ‘non-typical’ nature of Stimulus 2, many struggled to deliver convincing analyses of the research findings of interventionist and enrichment studies.

Discussions of reaction range and environmental influences were usually addressed. It might be more beneficial for candidates to invest more attention in the evaluation of each theory.

The interactionist explanations continue to expose areas of strength and uncertainty. Many named Flynn here, stating generational increases in IQ scores equals increase in intelligence, missing the point that Flynn’s “adaptation to modernity” is that these IQ score increases are most aligned to developed and developing countries.

The over explanation of IQ was one area that candidates needed to show relevance in regards to the actual question.

Criterion 7
Candidates should plan their responses carefully and leave out any information which is not relevant to the direct question. ‘Analysis’ and ‘critical evaluate’ too often, was relegated to a listing of a range of heredity and deprivation/enrichment studies, with minimal attempt to evaluate beyond pointing out that the nature, environment and interactionist models were merely ‘alternative’ explanations.
Empirical evidence was sound but candidates are recommended to examine contemporary, as well as classic, studies to enhance understanding and examine new areas of intelligence research.

Candidates who achieved well on this criterion were able to clearly refer to the stimulus, extrapolating comparative statistical data (Stimulus 1) and embedding key quotes from Stimulus 2 when recounting each theory. These responses referenced key empirical evidence and theorists, offering succinct evaluative assessments (strengths and limitations). Stronger responses used the stimuli as a springboard to explain environmental influences on intelligence. Weaker responses only briefly mentioned Stimulus 2.

There was, however, impressive coverage particularly for interventionist and enrichment research.

Stimulus 1 enabled candidates to demonstrate both biological and environmental influences on intelligence, and stronger candidates provided clearer explanations of what the evidence indicated. For example, “this higher IQ correlation suggests a strong biological influence on intelligence.” Candidates are reminded to explain the evidence rather than simply state the evidence.

**Question 5—Personality**

There was a strong response to this topic where most candidates appeared well-prepared for the question. The stimulus used perhaps lent itself to easier analysis and demonstration of competent understanding of relevant theories to explain and enable a sound coverage of the means by which genetic and environmental factors influence the development of personality.

**Criterion 1**

Stronger responses articulated well-presented arguments, which not only explained the various theories of personality development, but also specified how each of these theories related to the stimulus content, and pin-pointed the extent to which genetics or the environment played in the development of personality.

Definitional accuracy for part (a) was satisfactory; most managed to define personality well, heredity competently, with less managing to define ‘biological influences’. Even in better responses, this concept was noticeably deficient in detail, with superficial placement of the term within a well-crafted response.

Application and acknowledgement of material in the stimulus excerpts was good, though many incorrectly described the findings of Loehlin et. al. (1992) in Stimulus 1, with those of Bouchard and McGue. Discussion of data from Stimulus 2 was more dominant, though candidates did resort to restating rather than extrapolating and applying relevant content.

Candidates would have benefited from doing more than merely summarising the theories of personality without directly answering the question posed; which was to link these theories to the debate over the influence of genetics and environment in personality formation.

**Criterion 7**

Some candidates performed strongly on this criterion. Strong responses were able to link appropriate supporting empirical research to polished and nuanced renditions of how genetic and environmental factors impact on personality. Responses across lesser ratings identified appropriate content, though the level of discussion lacked analytical rigour and/or offered minimal evaluation; the listing of a range of studies, with an extended commentary on Rogers courtesy of Stimulus 2, seemed the norm for these responses.
Generally, candidates did well at discussing the stimuli, and also relating each stimulus to additional research. While the use of evidence was good, candidate responses generally documented material that was not well-tailored to the question, and/or did not address, by specific mention of, nor alignment of evaluative analysis to, the stimuli, not even when describing Rogers. Given the content included in Stimulus 2, there was scope for candidates to perhaps extend evaluation to mention humanism theory.

What is of critical importance here, given the criterion assessment standards, is that candidates answer the question posed, with primary focus on the instructional and requisite function of part (b), to, ‘analyse and critically evaluate the evidence’ presented in the argument offered. Ensuring there is balanced coverage of the oppositional and alternate perspectives, is key here. Stronger candidates executed, or were moving towards this balanced response.

Section C – Psychobiological Processes

Question 6 – Visual Perception

Overall, this question was answered well by many candidates. There was evidence of candidates giving consideration to how they would structure their response to analyse theories, use relevant concepts and empirical evidence, as well as connect to the stimulus items and key concepts in the question. For example, responses often had more emphasis on depth and pictorial cues, rather than Gestalt Principles. Some candidates tried to apply constancies to the picture in Stimulus 1, which was not always applied accurately. Most candidates were able to incorporate the concepts in the question, and connect to Stimulus 1 and 2.

The structure of responses varied; some emphasised the 6 steps from sensation to perception, whilst others structured their responses in terms of theories.

Criterion 2
Gregory, Gibson and Neisser’s Theories were discussed and analysed, as well as providing the right amount of emphasis on supporting evidence (for example, illusions were often mentioned as support for Top-down processing, and candidates provided adequate detail).

Stronger responses discussed the three theories well and showed critical analysis (the strengths/limitations of theories). When discussing theories, these responses used concepts as examples/evidence. The stimulus was well utilised (eg. discussed pictorial depth cues with evidence from the stimulus, and discussion of Neisser’s theory using language provided in the stimulus).

Information and analysis was often integrated throughout candidates’ responses, which demonstrated how well they understood the topic. The strongest responses often had additional supporting evidence, and made more complex connections.

Weaker responses wrote down everything they knew about the topic, rather than trying to respond to the question, sometimes describing studies without providing the researchers name or accurately identifying the relevant concept, had little/no critical analysis and contained little/no empirical evidence (such as studies like Bruner and Minturn’s B/13) to support the major theories being discussed.

A number of responses were unfinished or dot-pointed (meaning that they lacked sufficient detail) or included lengthy discussions about irrelevant course material, such as the physiological influences on visual perception, which was not required by the question.
Criterion 7
Stronger responses used the stimulus well, incorporating empirical evidence, the stimulus and real-life examples to support arguments. These discussed all three theories (Gibson, Gregory, Neisser). Evidence was often integrated into the discussion and analysis of theories.

Weaker responses did not discuss all three theories in sufficient detail, used little/no evidence, examples and/or the stimulus to support their response and did not connect to the concepts and stimulus items in the question as well as other candidates.

Question 7 – Consciousness

In general, the Consciousness question garnered many strong responses. The majority of candidates answered all parts of the question, explaining the three terms in Part (a) and explaining theories as requested in Part (b), in a single extended response.

Criterion 2
Most candidates explained the required terms. Many referred to the EEG reading in Stimulus 1 to discuss measurements of states of consciousness, and also explained other measurements such as EOG, EMG, GSR, etc. Some stronger responses segued from this to describing the characteristics of normal waking consciousness as compared to altered states of consciousness, and attention as a state of NWC followed by a discussion of selective and divided attention.

Weaker responses only mentioned EEGs as a measurement of consciousness and did not sufficiently define and describe attention, only explaining attention by referring to/citing Stimulus 2.

Some candidates included psychological measurements as well as physiological ones, which enhanced their answer.

The vast majority of candidates were able to identify survival and restoration theories of sleep, with weaker responses providing only a cursory explanation and no analysis or evaluation. Stronger responses provided evidence for these theories, as well as discussed weaknesses. Many candidates also discussed dream theories, some making links between dreams and the purpose of sleep.

Evaluation was an area where polarisation was quite apparent – candidates either explained, provided evidence for and evaluated the theories, or only minimally mentioned them.

Criterion 7
Overall candidates did well in providing evidence to support concepts.

Many cited research pertaining to attention and controlled/automatic processes such as the cocktail party effect, Broadbent and other attention research, as well as the Stroop Effect. Evidence was also provided for the theories of sleep, and often sleep deprivation studies as evidence for the importance of sleep. Those who discussed sleep deprivation could have taken advantage of this opportunity to use it as an example of an ASC. Many stronger responses cited multiple studies, including names and dates (although candidates should be reminded that dates, while helpful, are not strictly necessary).

Generally both stimuli were well-utilised, with Stimulus 1 being particularly dissected. Responses included a discussion of REM and NREM sleep. Some offered a good level of detail in their explanations; a suggestion or reminder is to strongly link such explanations to the specific question; i.e., in this case, what
does this information demonstrate about either measurements of sleep, NWC, attention, and/or theories of sleep as an ASC? Otherwise, there is a risk of relevant information appearing superfluous.

Some candidates were confused by the EEG reading in Stimulus 1, in thinking that it referred only to sleep, and therefore referred to beta waves as indicating the first stage of sleep.

Stimulus 2 was also well-utilised, with stronger responses using this for a detailed discussion about selective and divided attention, including controlled or serial, and automatic or parallel, processes. Selective and divided attention were appropriately positioned on the upper end of the spectrum of consciousness, as examples of NWC.

Weaker responses did not provide any empirical evidence beyond what was offered in the stimuli and mentioning the names of the two major theories of sleep.
Investigation Project

This year the unit for assessment in the Investigation Project was **Remembering**. In general there were some very interesting and engaging topics. Some candidates were quite innovative in their ability to think about this area of psychological research. The variety of topics was very good. There did seem to be a significant interest in Serial Position Effect, Iconic and Echoic Memory, recall and recognition, emotion and memory loss and aging.

Stronger responses explained the issues and used sound theories to explain the possibilities within their chosen area. These then linked to the actual topic being investigated and in the discussion returned to the topic area and studies, to make sense of what had been found.

To iterate from last year’s report:
The topic and methodology for investigation must be ethically sound and conducted in an ethical manner with the welfare of the participants having central importance. Approval of both topic and methodology must be obtained from the teacher before undertaking any investigation.

Ethical concerns are still occurring, particularly in relation to candidate, school and teacher and participant names appearing in submitted folios. These must be removed (redacted) prior to submission.

**CRITERION 4: Analyse theories about Remembering**

- Most candidates selected appropriate topics for their research from the Remembering module. Candidates when citing memory and its relationship with another topic. (i.e. sleep deprivation) often shifted their focus to the secondary topic to the detriment of memory.
- Stronger reports defined/explained key terms related to memory processes and/or their specific area of research, while weaker reports provided no explanation for these.
- Stronger reports located the topic of their IP within the broader context of memory, with some explanation of related theories. Weaker candidates did not adequately position their specific topic and often did not outline any models of memory.
- Competent candidates explained remembering concepts and what researchers believed was the underlying cause or reason for that effect and the empirical evidence that support this, whereas weaker candidates were more likely to state that an effect happens and retell previous experiments.
- Candidates are reminded to ensure that the introduction contains sufficient information to position their research. Stronger responses went beyond the standard studies providing evidence of sound research while weaker responses relied largely on Grivas.
- Candidates should be wary of the overuse of quotes – there seemed to be a trend for the introduction to contain a string of quotes for definitions of the terms and concepts – while a few quotes are fine, overuse should be avoided as this doesn’t demonstrate the candidate’s own understanding.
- The majority of candidates were thorough in outlining their findings. On a related note, candidates are reminded that, in the Analysis/Discussion section/s, the results should not just be outlined in great detail but also interpreted with reference to the topic – what do these results suggest about the processes of memory and the specific topic they are investigating?
- Generally candidates did well with referencing past research in the area under study.
CRITERION 6: Use ethical psychological research methods

- The vast majority of candidates did well in explicitly addressing ethical considerations. Candidates should be reminded that there is no need to explain the meaning of the various ethical considerations unless they have tailored their explanations to their specific circumstances. Two or three pages of explanations regarding what the ethical considerations are is not required.
- The methodology was often not as detailed as it needed to be – candidates are reminded that the method does not count in the overall word count therefore there is no reason to skimp in this area: the method should be described such that someone could replicate the research. It was common to simply provide a very cursory explanation of the procedure and refer the reader to the relevant appendix (the instructions to participants) to determine exactly what transpired.
- The vast majority of candidates identified sampling method, size, and population; as well as the independent and dependent variables. Many did not identify the research design (for example, independent groups, repeated measures, etc.). Where there are experimental and control groups or conditions, these also need to be specified. There was often insufficient explanation of the rationale for the materials and procedure used. How participants were selected was often omitted. The term ‘random’ was often used incorrectly.
- Candidates are recommended to be selective in the use of interpretation of data – some candidates seemed to use too many figures that did not connect explicitly to hypothesis; they should be mindful of deploying the most relevant findings via figure/table.
- Results need to be displayed in the most appropriate way for a study in the discipline of Psychology. Particular graphs are used for particular purposes. Pie graphs are not the most appropriate method for displaying data for Psychology.
- There was a trend toward the use of tables in the results section, where the same data had also been graphed - this is not necessary; i.e., where the table and the figure are essentially the same, the table is not needed.
- Similarly, there was some tendency to simply graph raw data rather than to interpret the data and decide how best to depict it before graphing. Raw data can be tabulated and placed in an appendix (provided it is referred to in the body of the report).
- There was also a trend to graph the same data in various forms of average – mean, mode & median, as well as percentages, which is unnecessary.
- Almost all candidates did well in discussing limitations of their research in the analysis/discussion section.

CRITERION 8: Communicate psychological ideas, information, opinions, arguments and conclusions

- It was pleasing to see candidates who were able to produce projects with a good balance in each of the sections of the report, especially the introduction and analysis/discussion. Generally the majority of reports were well structured.
- Better responses were able to integrate well-researched experiments into their introduction which really supported their hypothesis. Weaker responses tended to just provide an overview of the theory and definitions of terms.
- Often some very polished writing demonstrated in the introduction was not always replicated in the analysis and discussion. These candidates were unable to analyse their findings and link these to their secondary research.
- Stronger candidates provided some good secondary research, often an excellent range of sources including journal articles which supported their topic and enabled comparison with their primary findings. These candidates provided a comprehensive analysis and discussion but no detail on limitations of the primary research in the report.
• In-text referencing presented problems for many candidates who often relied heavily on online sources but did not adequately cite these.
• A trend towards using abbreviations throughout the report without any explanation as to what they represented, made it difficult for the marker to read.
• Many graphs were void of any explanations, it was left to the examiner to interpret them.
• In terms of the writing of the project, stronger candidates wrote in third person and utilised past tense in the method, while weaker candidates wrote in first person, especially in the procedure, analysis and discussion sections.
• There was some confusion with the use of the terms; number and amount.
• Students do not need to in-text reference at the end of every sentence if it is from the same source. One in-text reference at the end of the paragraph is sufficient.
• It is good to see the exceptional standard of writing in many reports, however there were a number of reports which were confusing and very hard to follow. Please think of your marks and proof read your work.

Reminders to candidates include:
• Introduction and discussion should be relatively balanced (although Introduction must not be longer than discussion).
• The ‘Results’ section should include a brief statement of the results (but no analysis).
• The discussion should not include extensive duplicated material from the results explanations (i.e., what has been stated in the results section does not need to be restated identically in the discussion).
• Experimental materials such as images should be referenced with ‘in-text’ referencing as well as being included on the reference list.
• Quotes should include page numbers in the in-text reference.
• It is recommended that the upper end of the word count be utilised as this will allow for more in-depth discussion and a more thorough report (many reports were in the lower end of the word count).
• The primary research should not be extensively referred to in the introduction, except to state the aim and the hypothesis at the end of the introductory section.
• Academic secondary sources are preferred (at least some) – there seems to be a trend away from the use of academic secondary sources in favour of websites, blogs etc.
• Do not include extraneous appendices, including multiple graphs and any other materials not directly referred to in the body of the report.
• It is preferable to convert data to percentages wherever possible before graphing.
• Remember to reference the primary research in the Reference List, as a separate type of source.
• Overall report formatting was good (font type/size, line spacing, subheadings, and running word counts at 200-word intervals…) etc.