Develop valid and reliable tools in
Physical Education Assessment
(cognitive domain)
發展具信度和效度的體育評估工具
（認知領域）
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筆試題目設計原則

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學 習 領 域 的 種 類

Bloom's Taxonomy of domains in Learning
運動(技巧和動作)

Psychomotor

認知　　　Cognitive　　Affective　　情意
(知識和理論)　　　　　　　　(精神和價值)

學習領域的種類

♦ Cognitive 認知（knowledge 知識）
I have learned what I should do.

♦ Affective 情意（attitude 態度）
I want to do what I should do.

♦ Psychomotor 運動（behavior 行為）
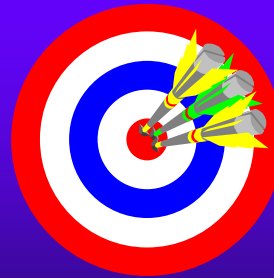*I am doing what I should do.*

體育科認知領域
筆試題目設計原則：

♦ 1. 能兼顧相容於教育和人生哲理。
♦ 2. 能認同主辦單位之宗旨、使命和理念。
♦ 3. 能釐訂SMART目標。

Setting Objectives for/of Assessment

S	Specific
M	Measurable
A	Attainable
R	Reasonable
T	Time bound

體育科認知領域
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- ◆ 3. 能釐訂SMART目標。
- ◆ 4. 能協助整體評估的一部分。
- ◆ 5. 能交由專科受訓人士監督和執行。
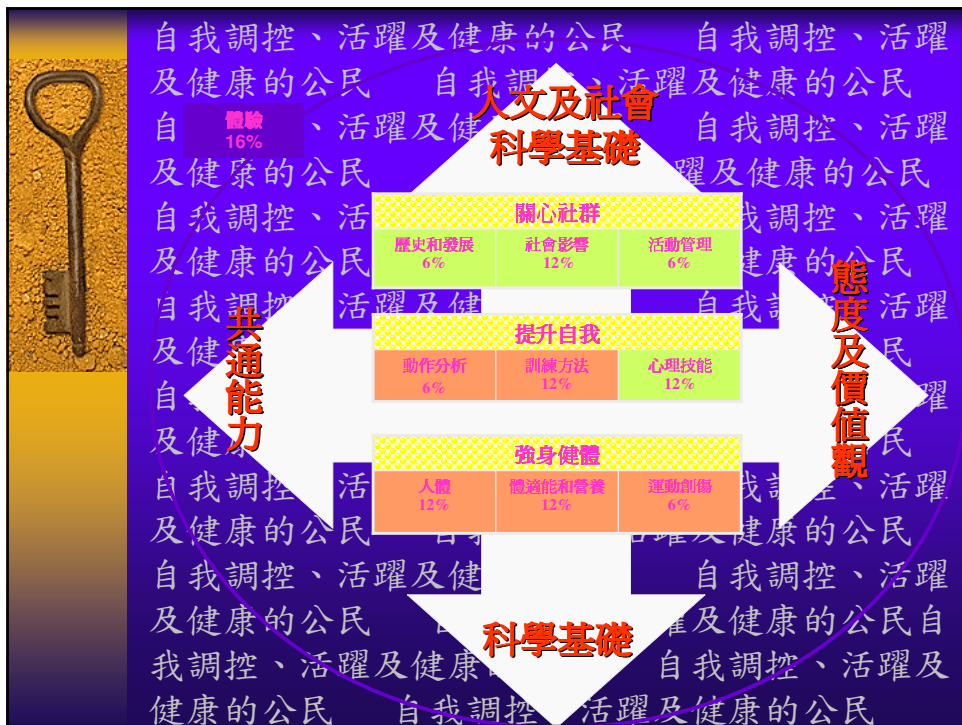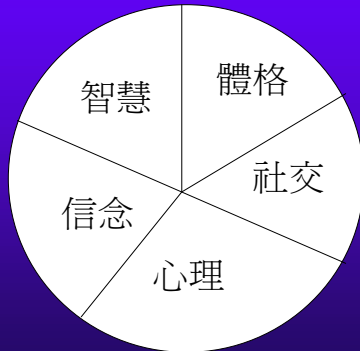
Year Total of Marks Allocation

Descriptions	%
Attendance / performance in class	10
Skills (4x5%)	20
General Fitness	20
Written Tests (2x5%)	10
Written Examination	20
Project / Portfolio / Others	10
Self Experience Assessment	10
TOTAL	100

體育科認知領域
筆試題目設計原則：

- ♦ 6. 能將結果演繹解釋為全人教育、終生學習、 及各範疇。
- ♦ 7. 能作為其中一種重要教育工具並在全人教育過程中扮演主要角色。
- ♦ 8. 能被量化和量度。
- ♦ 9. 能接受沒有完美的事實。

全人教育、終生學習、及各範疇

體育科認知領域
　　筆試題目設計原則：

♦ 10. 能尊重任何客觀量度均不可取代測試之裁決。

♦ 11. 能為考生安排預測(前測)以獲知水平、釐定教學目標、設計課程及決定考試範圍藉以確保學生進度。

體育科認知領域
　　筆試題目設計原則：

♦ 12. 能照顧個別差異及減少單一性和統一性所引致之誤差。
♦ 13. 能行使高信度、效度和達標度的評估工具。

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照顧個別差異

難易程度分配
Allocation of Marks in Levels of Difficulty

Levels of Difficulty	Marks Allocation
Below Average	34 %
Average	33 %
High Achievers	33 %

Bloom's taxonomy of learning, the six levels of cognitive attainments

Levels	Old	New
I	knowledge	REMEMBER
II	comprehension	UNDERSTAND
III	application	APPLY
IV	analysis	ANALYSE
V	synthesis	EVALUATE
VI	evaluation	CREATE

REMEMBER

♦ REMEMBER - retrieving relevant knowledge from long-term memory.

♦ From which line is a free throw shot in basketball?

A. The end line.

B. The base line.

C. The restraining line.

The foul line.

UNDERSTAND

UNDERSTAND - Determining the meaning of instructional message including oral, written and graphic communication.

♦ When a player is fouled in the act of shooting,
   A. he received two free throws.
   B. he throws the ball into play from O-O-B.
   C. the person committing the foul must leave.
   D. the player committing the foul is assessed two fouls.

APPLY

APPLY – Carrying out or using a procedure in a given situation.

♦ A technical foul is called in basketball when
   A. a player travels with the ball at least three times during the game.
   B. a player intentionally fouls an opponent.
   C. a team calls its sixth time-out.
   D. a player enters a game more than 2 times.

ANALYSE

♦ ANALYSE - Breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose.

♦ In analyzing the jump shot in basketball, which aspect contributes to the ball hanging on the rim and thereby increases the chance for a goal?

A. Effective wrist-snap and backspin on the ball at point of release.

B. Keeping the elbow in to the side and in front of the shoulder when shooting.

C. Bending the knees, jumping and leaving the floor before shooting.

D. Having rather flat trajectory on the ball after release.

EVALUATE

♦ EVALUATE – Making judgments based on criteria and standards.

♦ Which is the best statement regarding the contribution that beginning basketball makes to the physical fitness of the player?

A. Builds arm strength.

B. Makes no contribution.

C. Facilitates weight control

D. Effect depends on frequency and duration of play.

CREATE

♦ CREATE – Putting elements together to form a novel coherent whole or make an original product.

♦ You are playing a man-to-man defense. Your opponent is quite fast, tends to dribble with the right hand, and shoots well but only with the right hand. Your strategy should be to

A. guard closely to prevent the opponent from shooting.
B. keep distance between yourself and the opponent in order to neutralize speed.
C. overguard your opponent on the right side in order to force him or her inside where you should get help from teammate
D. overguard your opponent on the left side, forcing him or her to the sidelines.

Traditional Evaluations

♦ Criterion-Referenced Vs Norm-Referenced

♦ Summative Vs   Formatives

♦ Product   Vs   Process

Written Test Items

♦ Alternate Choice Items -   true/false, yes/no,
   right/wrong and correction of a statement.
♦ Multiple Choice Questions
♦ Matching Questions
♦ Completion Items – filling in blanks, cloze.
♦ Essay Items – short answers, long essay.
♦ Graphs / Diagrams / Pictures

試題常用的動詞1

♦ Adjust 調節
♦ Arrange 安排
♦ Answer 回答
♦ Argue 申辯
♦ Carry Out 執行
♦ Check 查點
♦ Complete 填寫
♦ Compute 綜合

♦ Define 闡釋
♦ Demonstrate 示範
♦ Describe 描述
♦ Diagnose 分析
♦ Differentiate 分辨
♦ Discuss 討論
♦ Draw 畫出
♦ Explain 解釋

試題常用的動詞2

- Find 找出
- Finish 完成
- Illustrate 舉例
- Label 標示
- Locate 點出
- Make 製作
- Modify 改造
- Name 提名

- Prepare 準備
- Reply 回應
- Reproduce 複製
- Select 選擇
- Tell 講出
- Test 測試
- Use 使用
- Write 寫出

Alternative Assessment

1. Design a skill leaflet to provide instruction about a motor skill
2. Create a checklist to assess the skill components
3. Create a 3-min instructional videotape about a skill or concept
4. Portfolio
5. Interview report or written report on promoting and organizing inter-class ball game tournment

Assessment tasks (ATs) for the ILOs

Portfolio containing ATs addressing the following ILOs:

1. *Explain in depth* why a particular course topic is important to teaching.
   AT: Set yourself a 2,000 word essay on one of two nominated topics
2. *Explain* how the component course topics inter-relate.
   AT: Concept map of course; letter-to-a-friend
3. *Reflect* on your teaching in terms of a working theory you have gained from the course.
   AT: Present selected parts of diary with comments
4. *Evaluate* a situation that has gone wrong and *apply* a solution.
   AT: Report as a case study

Assessment Mode	Likely Kind of Learning Assessed
Extended prose, essay-type	
Essay exam	Rote, question spotting, speed structuring
Open book	As for exam but less memory, coverage
Assignment, take home	Read widely, inter-relate, organise, apply copy
Objective test	
Multiple choice	Recognition, strategy, comprehension, coverage
Ordered outcome	Hierarchies of understanding
Performance assessment	
Practicum	Skills needed in real life
Seminar, presentation	Communication skills
Critical incidents	Reflection, application, sense of relevance
Project	Application, research skills
Reflective journal	Reflection, application, sense of relevance
Case study, problem	Application, professional skills
Portfolio	Reflection, creativity, unintended outcomes
Rapid assessments (large class)	
Concept maps	Coverage, relationships
Three minute essay	Level of understanding, sense of relevance
Gobbets	Appreciating significant detail, why
Short answer	Recall units of information, coverage
Letter to a friend	Holistic understanding, application, reflection
Cloze	Comprehension of main ideas

Q & A

Thank you for your sharing.

The End