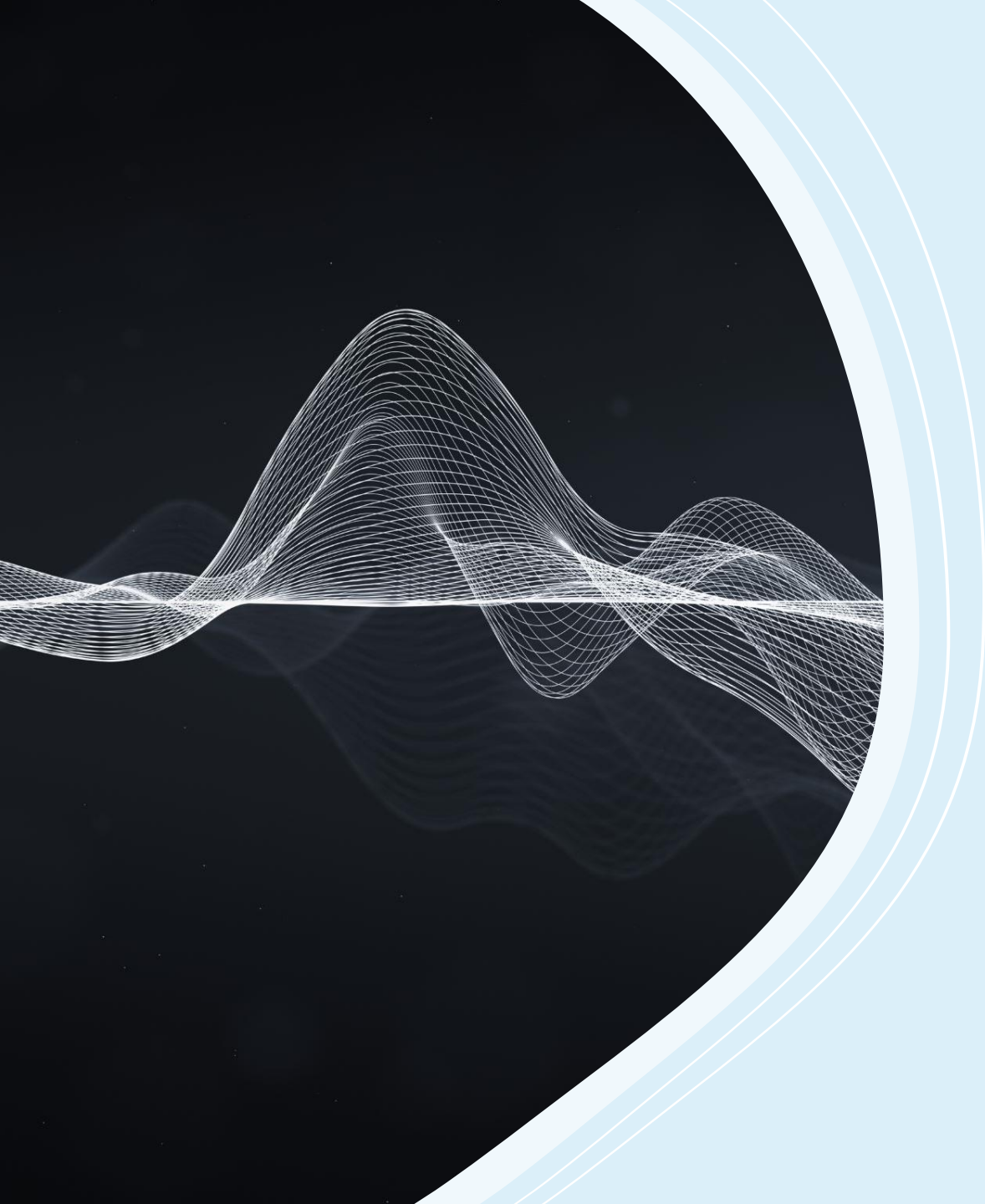




Understanding the Self

Personality and Intelligence in
Education and Work

Stacey Coleman

Lecture outline

→ Intelligence

→ Personality factors

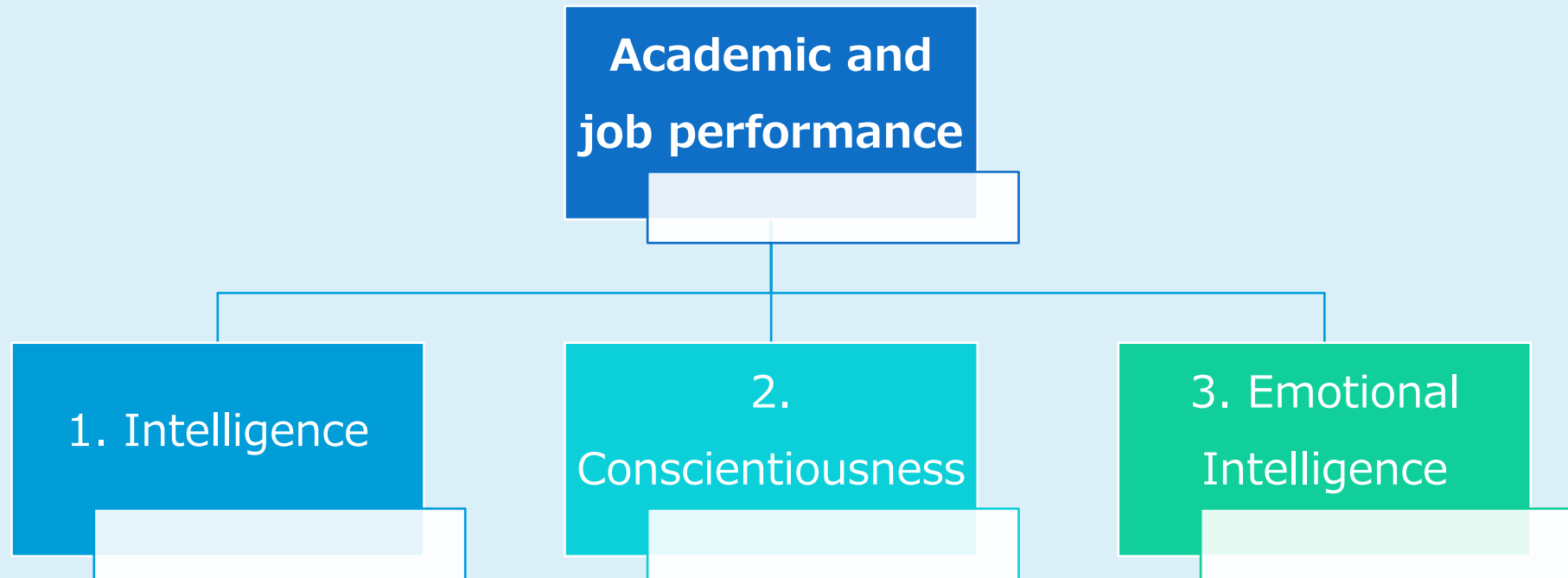


Academic achievement

Work / job performance

→ Kolb's Learning styles

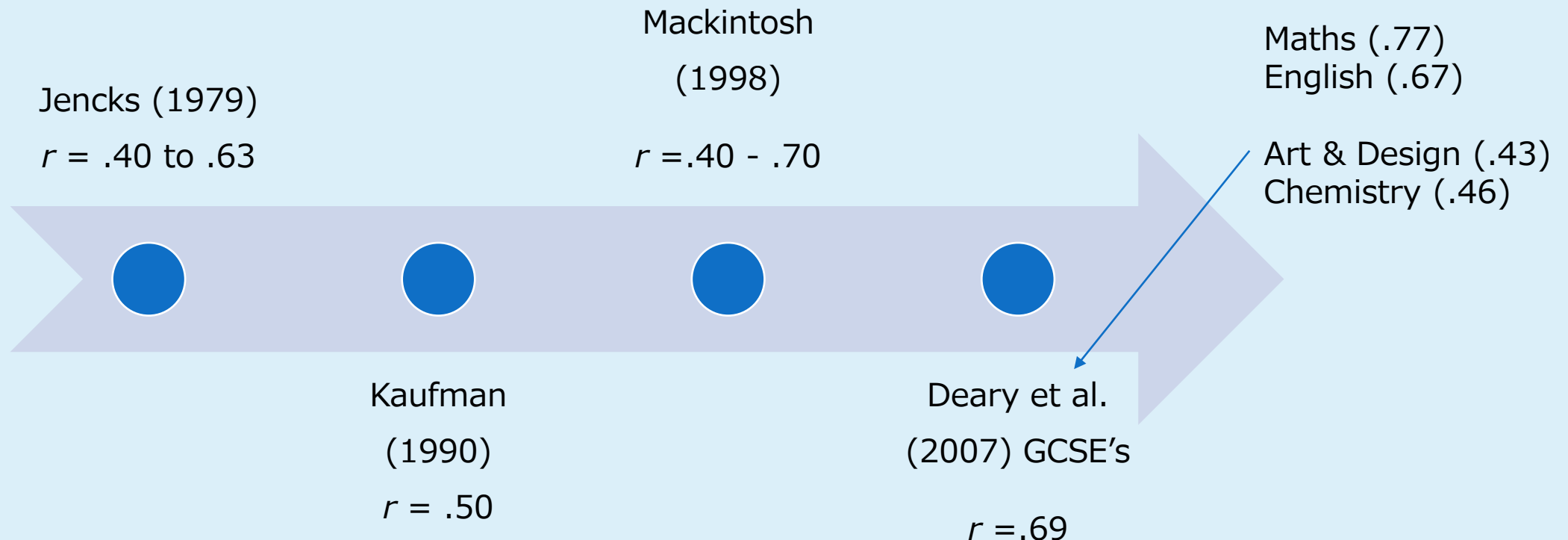
Education and Work Performance



Intelligence

$r = .10$ - small
 $r = .30$ - medium
 $r = .50$ - large

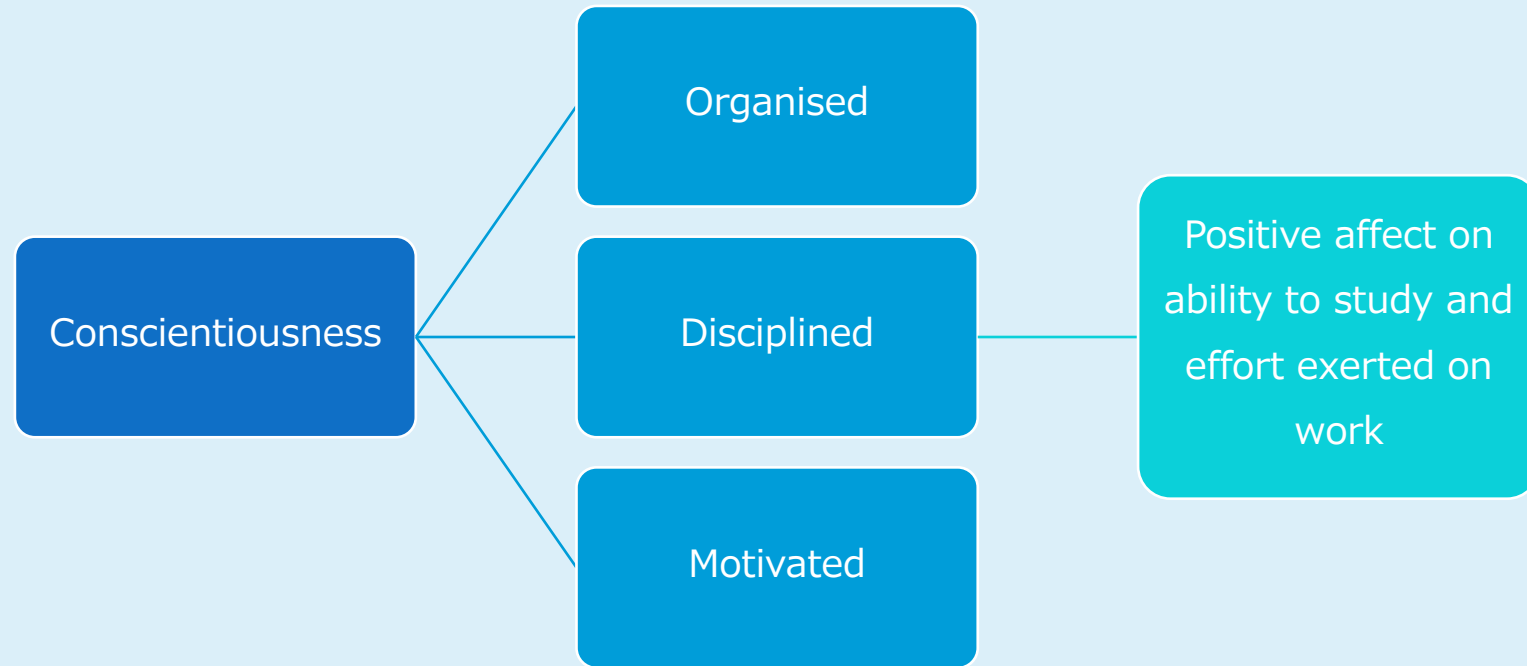
- Evidence suggests that general intelligence shows a strong relationship with academic achievement



Conscientiousness

Personality trait comprising of practicality, dependability, reliability, hard-working, ambitiousness, organised, etc

Bratko et al. (2006) – conscientiousness is the most consistent predictor of academic achievement



Five Factor Model

Trait	Characteristics
Openness	Perceptive, curious, analytical, cultured
Conscientiousness	Cautious, dependable, determined, hardworking
Extraversion	Sociable, active, assertive, person-oriented
Agreeableness	Warm, trusting, cooperative, agreeable
Neuroticism	Worried, anxious, emotional, self-conscious

O'Connor and Paunonen (2007): meta-analysis - FFM and academic achievement

Conscientiousness: $r = .22$

– *Furnham et al (2003) $r = .40$*

Openness: overall $r = .05$

– *1991 study Dollinger and Orf – $r = .30$*

Extraversion: generally negatively related

Agreeableness: $r = .06$

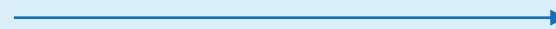
Neuroticism: $r = .03$

Five Factor Model

O'Connor and Paunonen (2007) – C is a consistent predictor of academic performance...

BUT

Facets of C are the **best** predictors



Achievement-oriented
Self-disciplined
Diligent

Conscientiousness
predicts academic
achievement

Being achievement-
oriented, self-
disciplined and
diligent predicts
academic
achievement

Factors are too broad; explore
facets further

Intelligence

→ Much like academic achievement, research suggests that intelligence is an important predictor of job performance

→ Job performance?



Intelligence: Meta-analyses

US

Hunter and Hunter (1984)

- Predictors at time of interview; eventual job performance
- 32,000 participants

Intelligence x job performance $r = .54$

- CV's (.37), previous experience (.18), education (.10)

UK

Bertua, Anderson and Salgado (2005)

- Different measures of intelligence and job performance
- 13,000 participants
- Low- and high-skilled jobs included

G x job performance

Specific abilities x
job performance

$r = .50$ to $.60$

Intelligence / General Mental Ability (GMA)

GMA = 'g' factor

→ Not IQ!

Higher GMA relates to better job performance

- Candidates with higher GMA acquire job related knowledge more rapidly and more deeply than those lower in GMA
- Prediction of GMA also increases with job complexity / cognitive demands of job

Personality and Job Performance

- The five factor model is the most useful in understanding the relationship between personality and job performance
- Several meta-analyses conducted: Hough (1992); Robertson (2001), Salgado (2003)

→ Findings from meta- analyses suggest three main things:

1. C and N are related to job performance

Conscientiousness and low neuroticism are consistently related to many indicators of job performance

2. C is the best predictor

Of the two, conscientiousness is the better/best predictor of job performance

3. O, A and E are not related to job performance

Openness, agreeableness and extraversion are **not** related to job performance (certainly not consistently)

Traits that predict job performance



Practical, organised, hardworking, careful/methodical, dependable, cautious, ambitious, not anxious, not self-conscious, good emotional stability, doesn't worry



Talkative, active, person-oriented, warm, adventurous, knowledgeable, analytical, sophisticated, agreeable, assertive, perceptive, artistic, courteous, enthusiastic, curious

Predicting job performance at selection

Assessment methods at selection	Correlation
Astrology (the study of positions and aspects of the planets and stars in the belief that they can influence the course of natural events and behaviour)	0.0
Graphology (the study of handwriting, employed as a means of analysing character)	0.0
Character references	0.13
Previous experience	0.18
Unstructured interviews	0.31
Curriculum vitae	0.37
Personality assessments	0.38
Intelligence	0.54
Samples of people's work	0.55
Structured interviews	0.62

There is no measure or test that predicts job performance /success with 100% certainty, but we can look at the best predictors to increase the likelihood of getting the right (best) person in the job

Based upon findings by Hunter and Hunter (1984) and Anderson and Shackleton (1993).

Using personality and intelligence tests

Despite evidence of predictive ability, generally not received well by candidates or settings (education or work)

- Expensive? Time consuming?
- Reputation?

1. Relationships between personality, intelligence, education and work are not as straight-forward as they seem.
2. Measures of personality and intelligence/GMA are not amongst those first considered for use.

1. Relationships between factors not straight-forward

- Education: students study a variety of different subjects
- Work: many job roles and responsibilities
- *Are personality and intelligence adaptable constructs?*
- The world of work constantly adapting so does this require flexibility?
- *C consistently predictive of performance; not related to flexibility and ability to adapt particularly well*

2. Not first consideration by education settings and employers

- Many other more important non-personality/non-intelligence factors that need to be considered

Job descriptions:

‘Must have good communication skills’

‘Must be extraverted’

Intelligence:

Self-reported information on education and experience (usually CV)

Timed cognitive ability test

Using personality and intelligence tests

Predictive ability is clear, but in modern education settings and workplaces there is little opportunity to use appropriately?

Despite evidence based, easy to see why personality and/or intelligence tests may not be seen as central to the process of education and work.



Kolb's Learning Styles

Kolb's Experiential Learning Theory (ELT)

Kolb's experiential learning theory is developed on two levels:

- **A four stage cycle of learning**
- **Four separate learning styles**

→ Based upon learner's internal cognitive processes

→ Development of new concepts is provided by new experiences



“Learning is the process whereby knowledge is created through the transformation of experience” (Kolb, 1984, p. 38).

Learning Process

In ELT, Kolb suggests that there are four main aspects involved in learning:

- Concrete experience (feeling)
- Reflective observation (watching)
- Abstract conceptualisation (thinking)
- Active experimentation (doing)

Concrete Experience (feeling)

Occurs when a new experience is encountered, or a reinterpretation of an existing experience.

e.g., learning how to use a new computer programme by opening and just using it

Reflective Observation (watching)

Occurs when we learn through thinking about our own experience, or watching others/learning through experiences of others

Importance on inconsistencies between experience and understanding

e.g., learning how to use a new computer programme by watching someone else use it

Abstract Conceptualisation (Thinking)

Occurs when we learning by creating theories to explain our observations and behaviours.

e.g., theorise that this new programme is similar to other programmes after using for a while

Reflecting gives rise to new ideas (or modification of existing abstract concept)

Active Experimentation (Doing)

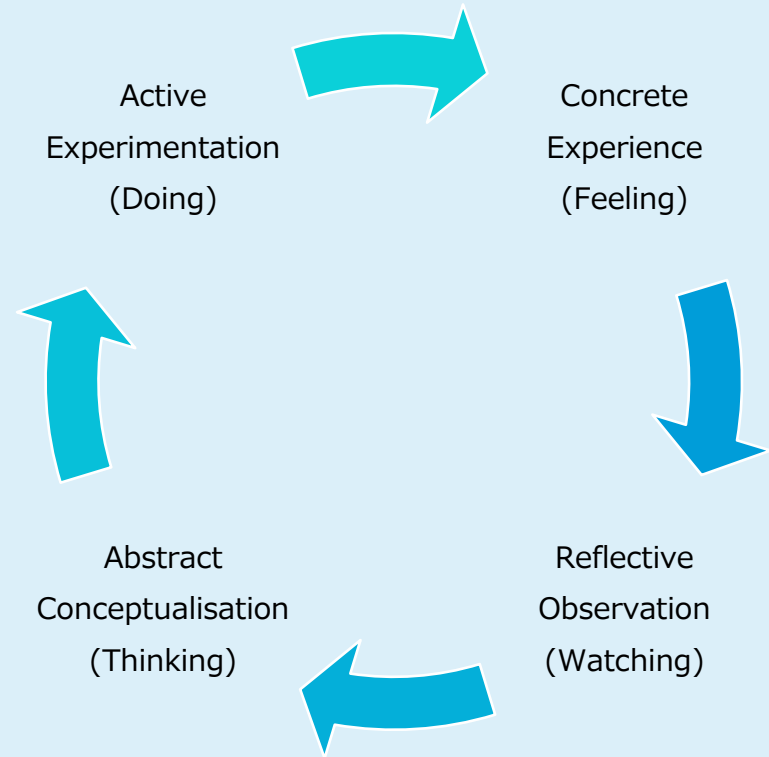
Occurs when we learn by using theories to solve problems and make decisions

e.g., we know what we want to do, but not sure how to do it. Apply theory that programme is similar to others and search for the function that may help us do what we want to do.

This process is a cycle

Kolb saw these four aspects as a learning cycle.

Best learning experience occurs when you move from one aspect to another.



Learning Processes

This is an integrated cycle with each stage being mutually supportive of, and feeding into, the next

- It is possible to enter the cycle at any stage and follow it through its logical sequence

Effective learning will only occur when a learner is able to execute all four stages

- No one stage of the cycle is an effective learning procedure on its own

Four Learning Styles

Using the four learning processes, Kolb identified four **individual differences** in the way we prefer to learn; **four learning styles**

Each learning style is made up of a combination of two of the previous learning processes

Four Learning Styles

Kolb explains that we naturally differ in the ways that we learn, and we therefore naturally prefer a different style of learning.

Various factors will influence learning style:

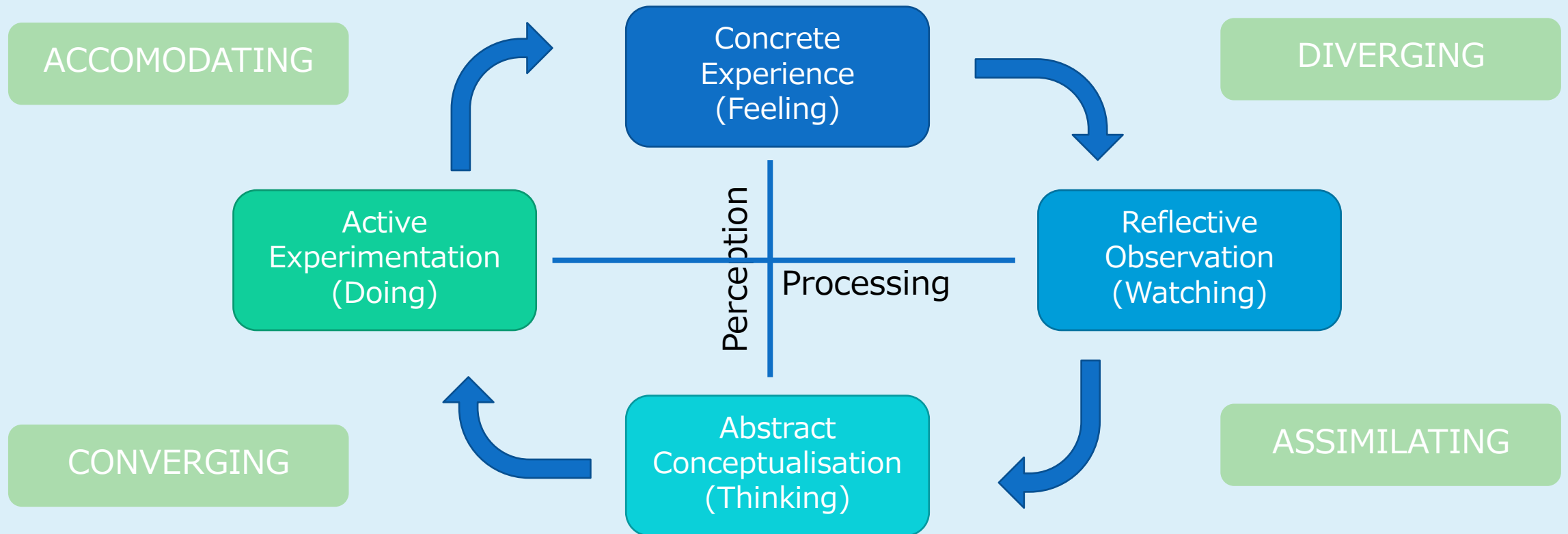
→ Social environment, education, cognitive processing/structures, etc

Learning style is the product of a pair of the four processes, or 'choices'

Two axis:

Processing and Perception

Four Learning Styles



Learning Styles

DIVERGING

Feeling and Watching

- Examine things from several different perspectives.
- Work best when watching and gathering information; use this to generate ideas and solutions.
- Emotional, creative, enjoy working with people.
- Work best in groups, excel in brainstorming situations.
- Divergers work well in counselling.

ASSIMILATING

Watching and Thinking

- Prefer a logical approach, prefer concepts over emotion
- Able to understand lots of information
- Enjoy theorising rather than practical application
- Assimilators work well in politics or social policy

Learning Styles

CONVERGING

Thinking and Doing

- Problem solvers who are interested in solving practical issues
- Good at applying ideas and theories to practical situations
- Generally not emotional and prefer working with 'things' than people
- Convergents would work well in physics or maths areas

ACCOMODATING

Doing and Feeling

- Prefer practical, hands on approach
- Happy with risks, enjoy new experiences.
- Work well in roles requiring action and initiative
- Accomodators would work well in sales or marketing

Applying Learning Styles

Kolb's work used extensively in schools and the workplace.

- Education:
 - *Suggestion is that the ideal learning situation involves all the learning processes*
- Workplace:
 - *Information on learning styles can help suit roles to people*
 - e.g., assimilators (logical/lacking emotion) wouldn't fit well in counselling roles

Applying Learning Styles

Argument made by Kolb that we often rely too much on one learning style, and don't attempt to develop others.

Smith and Kolb (1986):

- **Personality:** high E drawn to learning styles that emphasise action (accommodating) or working with people (diverging)
- **Schooling:** learning to learn in different ways, style then dependent on teaching approach
- **Current job:** demands of roles may lead to a certain learning style.

Critique of Kolb's theory

- ✓ One of the most useful models of learning; ensures teaching is effective (Atherton, 2002)
- ✓ Emphasis on the learner rather than just the instructor (Jarvis, 1995)
- × Too narrow, doesn't account for many other individual factors
 - × Goals, reasons for learning, etc
 - × Lack of consideration of culture
 - × Empirical support is generally weak

Summary

- Intelligence is considered the main influential predictor of educational achievement and job performance
- Conscientiousness has been shown to consistently predict job performance
- Despite evidence re: predictive validity, personality and intelligence measures are usually not considered first in education/work
- Kolb's learning styles based upon individual differences research
- Four learning processes are essential as a cycle; pairs of processes form specific learning styles