ACU
AUSTRALIAN CATHOLIC UNIVERSITY

Faculty Law and Business

The Effect of Flipped Feedback Intervention on the Development of Employability Skills: Collaborative Group Work Context

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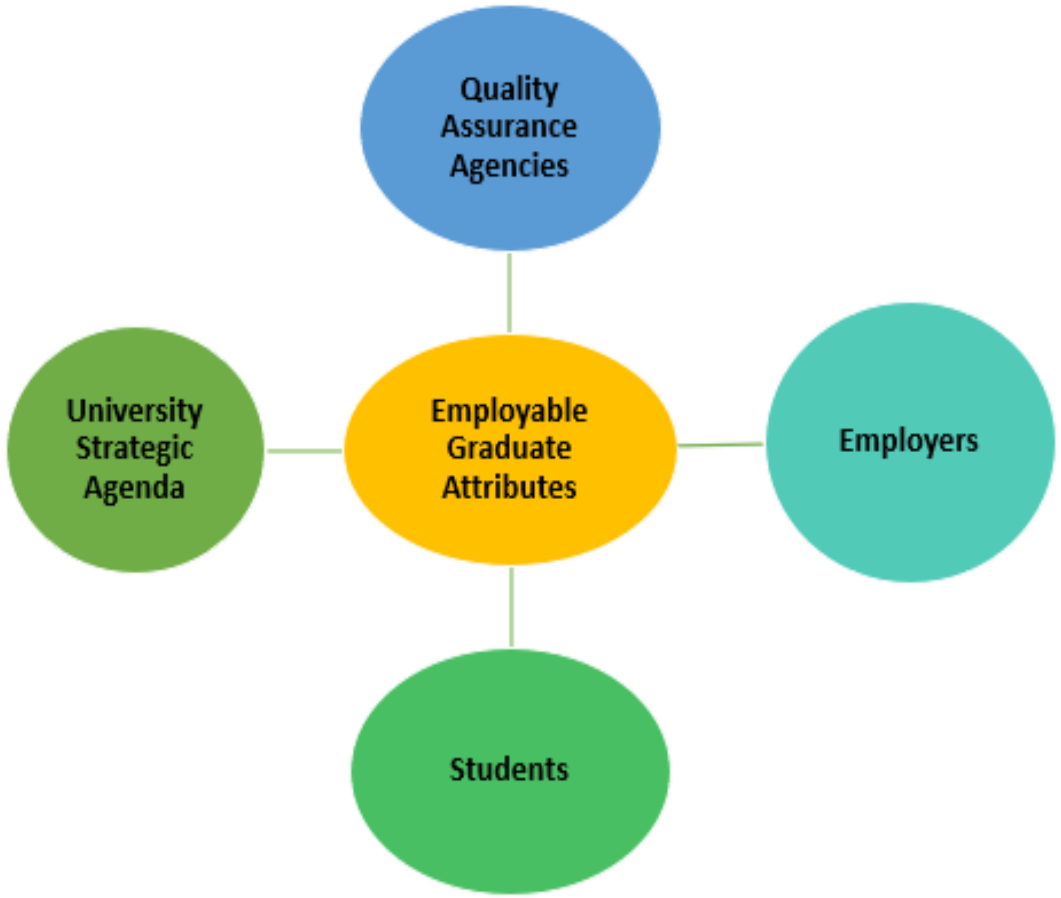
MOTIVATION – EDUCATING THE WHOLE PERSON



Confronting Challenges in HE

❖Unmet '**soft skills**' needs from multiple stakeholders

- Employers
- Students
- Accrediting Bodies
- University Strategic Agenda

(Bridgstock 2009; Hughes and Barrie, 2010; Oliver, 2010; Loughry et al. 2013; French et al. 2014)

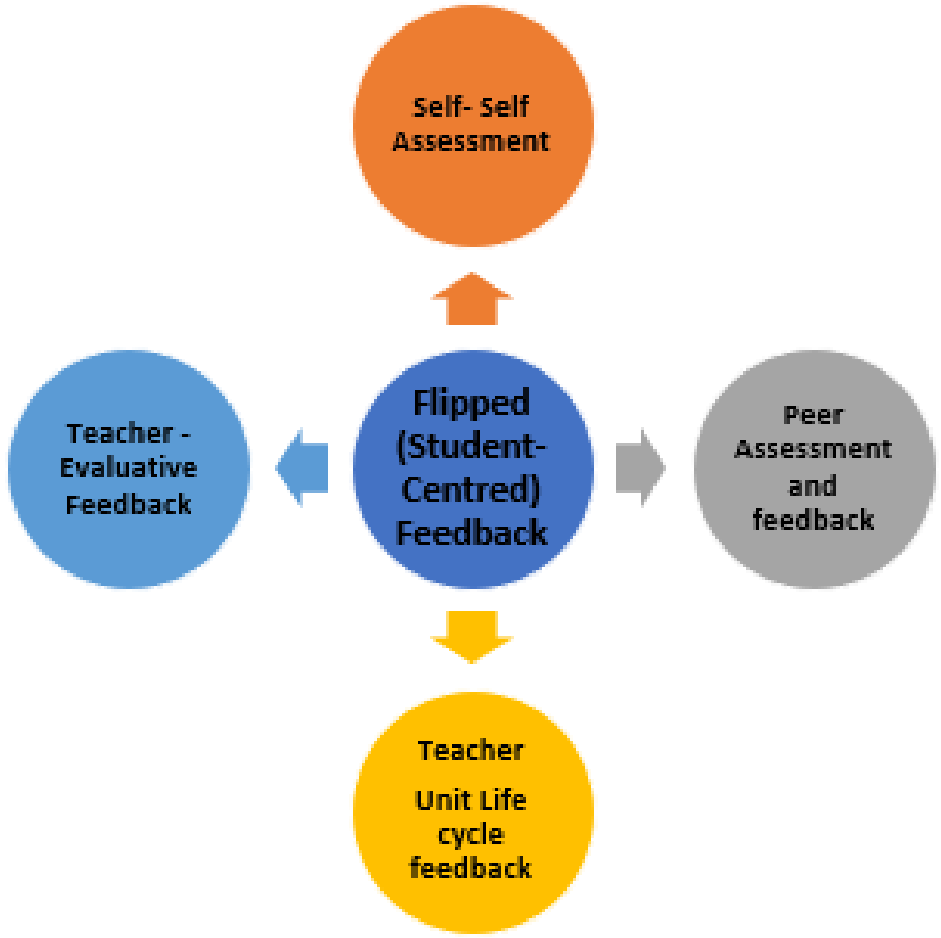
CONTEXT AND UNDERPINNING THEORIES

- Collaborative group work – underpinning theories
  - ***Social interdependence*** theory and ***social constructivist*** theory
  - ***Cooperation***, compared to competition and individual effort
  - ***Social interaction*** and ***exploration***
  - Learning is a ***social process***
- Employability skills
  - Giving quality feedback (student-centred) – one of the key employability attributes
  - ability to collaboratively work with others

(Lewin, 1951 ; Vygotsky, 1978; Crook, 1999)

WHY FLIPPED FEEDBACK?

- Students unmet needs and impact
  - Teamwork literacy and feedback literacy - complex
- Deal with ***problems*** of collaborative group work
  - ***Free-rider*** problem; ***sucker effect*** problem
  - Students inability to deal with these ***problems***
- Why ***peer feedback***?
  - Students are ***best positioned*** to assess and give feedback to team members
  - Teachers are not suited – limited view
- Why in assessment context?
  - ***De facto curriculum***
  - ***"The most powerful single moderator that enhances achievement" -*** Significant impact on learning



(Elliott and Higgins 2005; Ohland et al. 2012)

WHY INTERVENTION?

- Why intervention?
  - Not intuitive
  - Feedback at the end of the semester is ***too late*** to change
  - ***No improvement*** is possible – learning and behavioural changes
- Why embedding ***self-assessment*** is crucial?
  - Develop evaluative judgement skills (“appraisal expertise”)
  - ***Calibration point*** to make comparative judgement of their peers
- How to ***implement*** in reality?
  - Technology/Tool – BluePulse and CATME

(Nicol et al. 2006; Anson and Goodman 2014; Boud and Falchikov, 1989; Willey and Gardner, 2009; Sadler, 2010)

KEY CHALLENGES PREVENTING FURTHER PROGRESS

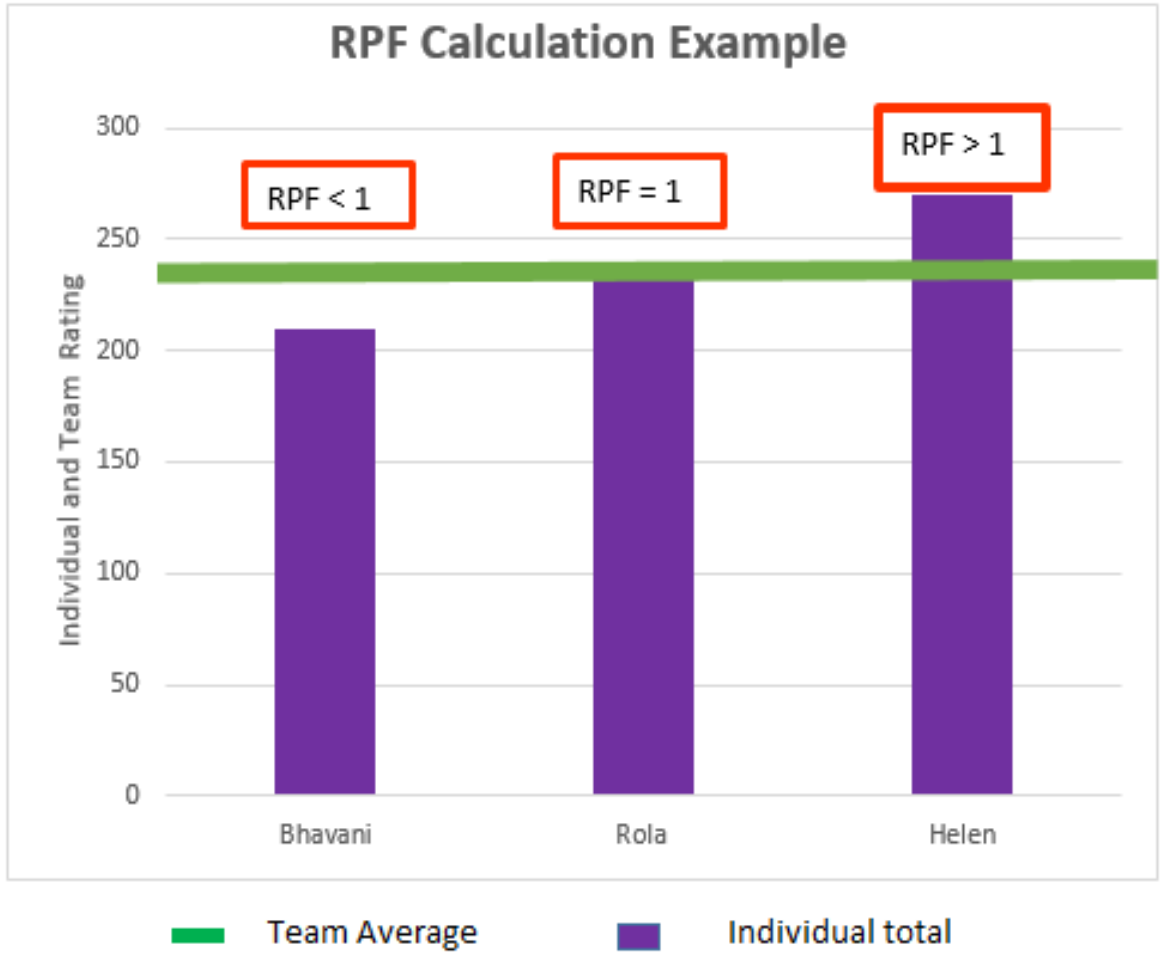
- ***Capability*** concerns
  - Teamwork literacy and Feedback literacy
  - Lack of capacity for evaluative judgement – e.g. cognitive biases
- ***Behavioural*** *concerns*
  - ***Conformity*** bias - Collusion (giving the same mark/pre-agreed mark)
  - ***Incentives*** to mismark (competition/vindictive)
  - ***Over-generous*** marking (friends)
  - **Sabotage** (over-rate self and under-rate peers)

(Gweon et al., 2017; Nicol et al., 2014; Willey and Gardner, 2009; Goldfinch 1994; Falchikov and Boud, 1989)

RESEARCH QUESTION

Does the intervention measure (fulfilling students' unmet knowledge needs) lead to improved performance scores and skill development rating, irrespective of their background, in collaborative group work context?

KEY CONCEPT – RELATIVE PERFORMANCE FACTOR (RPF)

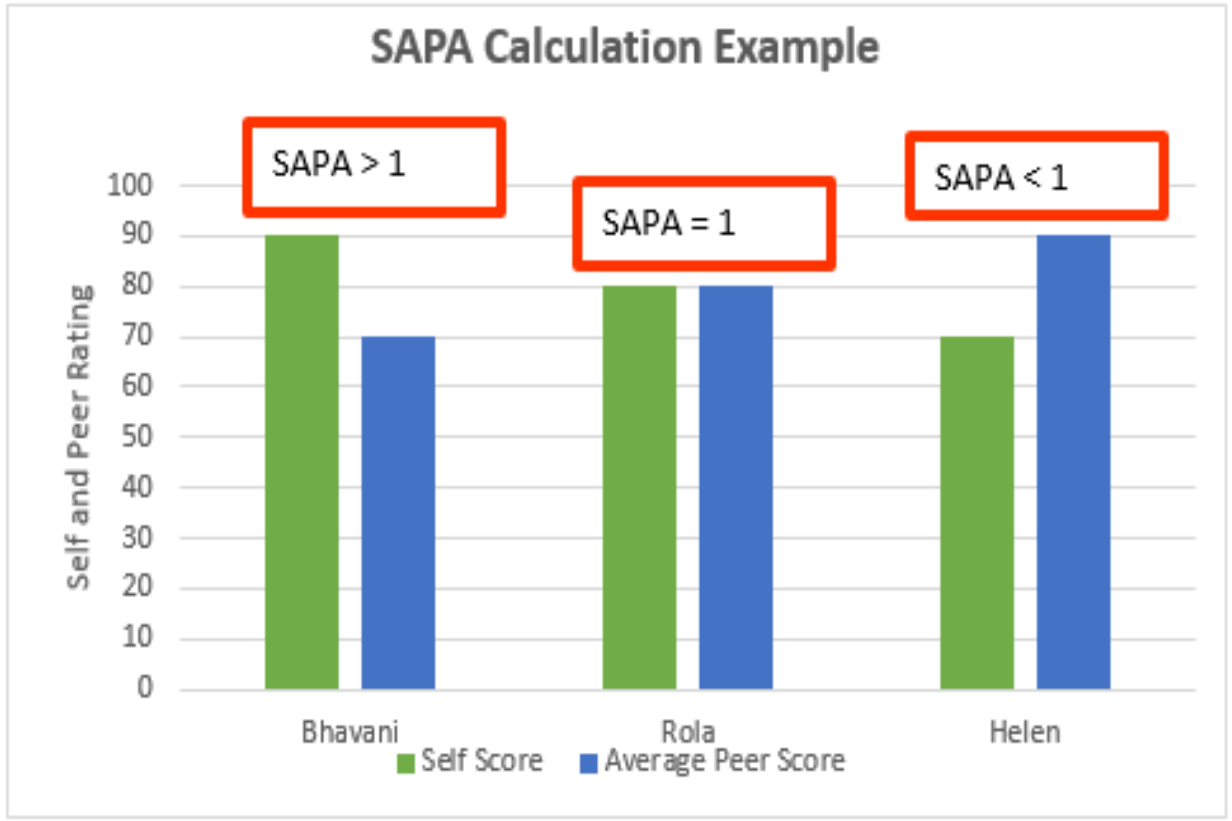


(Wiley and Garner, 2009)

- RPF for Bhavani = 0.94 => RPF < 1 – I contributed ***less*** than my peers
- RPF for Rola = 1.00 => RPF = 1 - contributed ***same*** as peers
- RPF for Helen = 1.06 => RPF > 1 - contributed ***more*** than her peers

$$\text{RPF for Student A} = \sqrt{\frac{\text{Total Mark for Student A}}{\text{Average Group Mark}}}$$

KEY CONCEPT – SELF AND PEER ASSESSMENT (SAPA) FACTOR

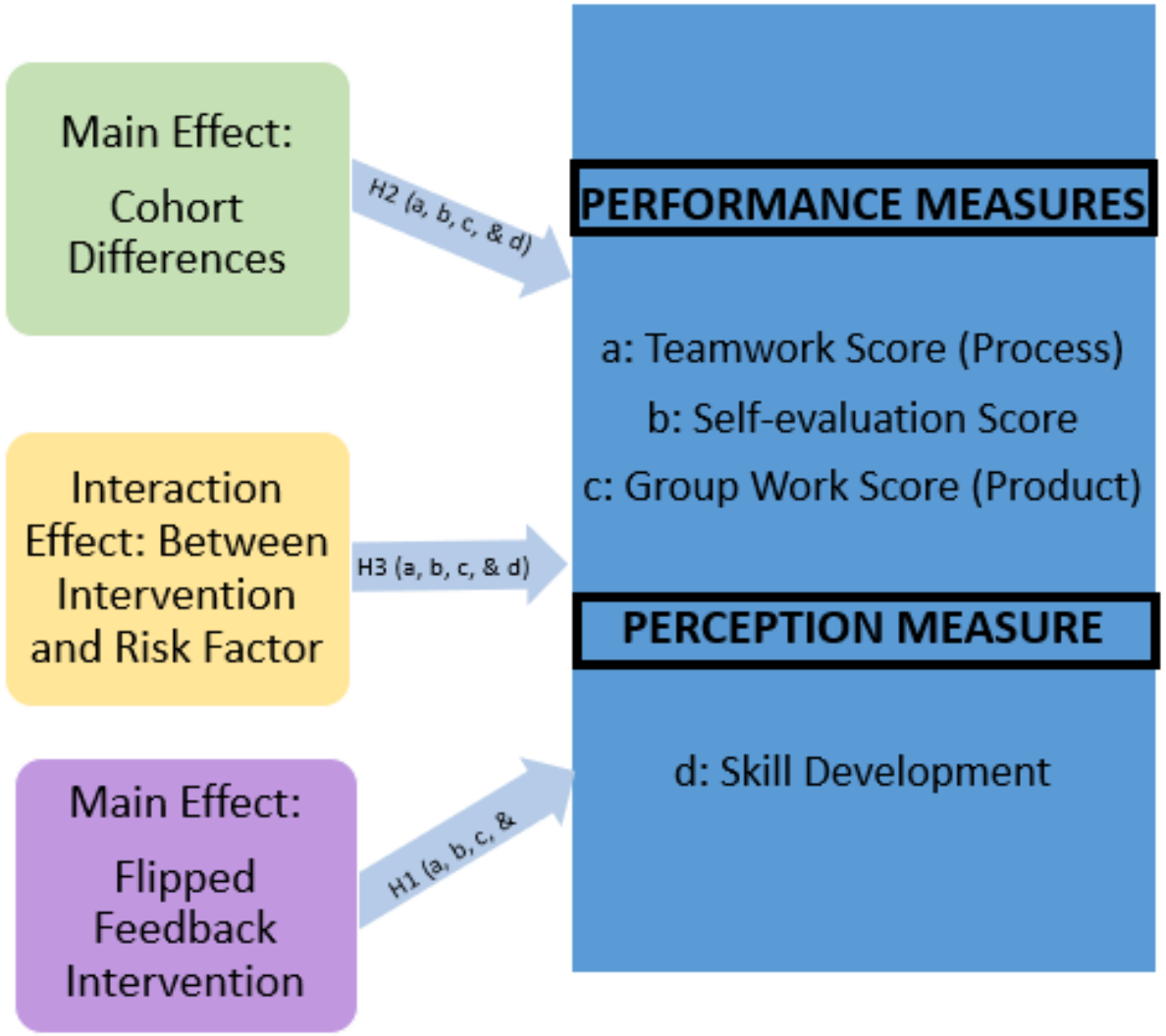


$$\text{SAPA for Student A} = \sqrt{\frac{\text{Self Assessed Mark for Student A}}{\text{Average Peer Mark for Student A}}}$$

- SAPA for Bhavani = 1.13 => SAPA > 1 – Rated her contribution ***higher than*** her peers
- SAPA for Rola = 1.00 => SAPA= 1 - Rated her contribution ***same*** as her peers
- SAPA for Helen = 0.88 => SAPA < 1 - Rated her contribution ***lower than*** her peers

CONCEPTUAL MODEL AND HYPOTHESES

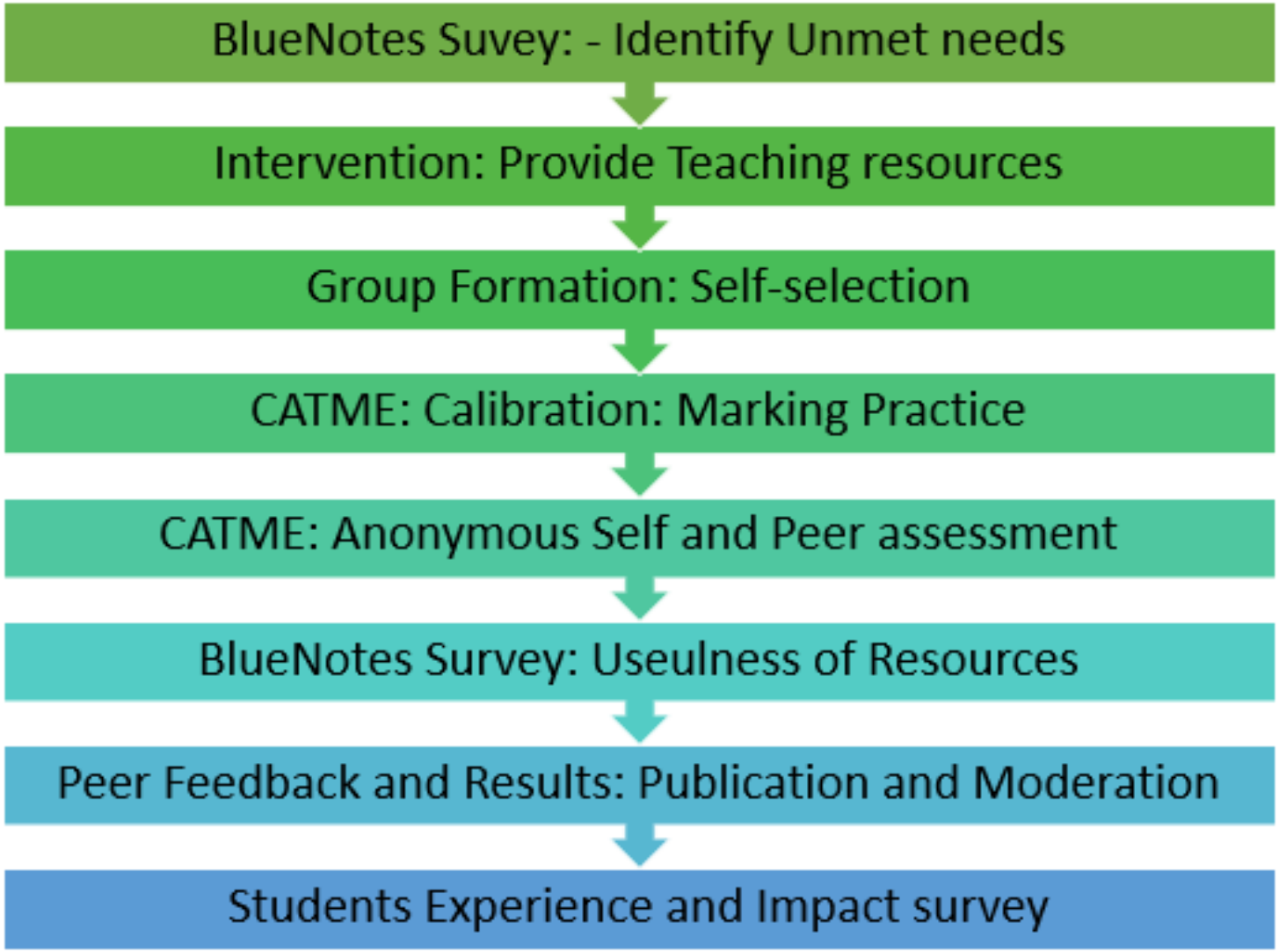
- H1: The flipped feedback intervention (FFI) influences outcome variables
- H2: Differences in student cohort influences outcome variables
- H3: Interdependency between intervention measure and cohort group difference influence outcome variables



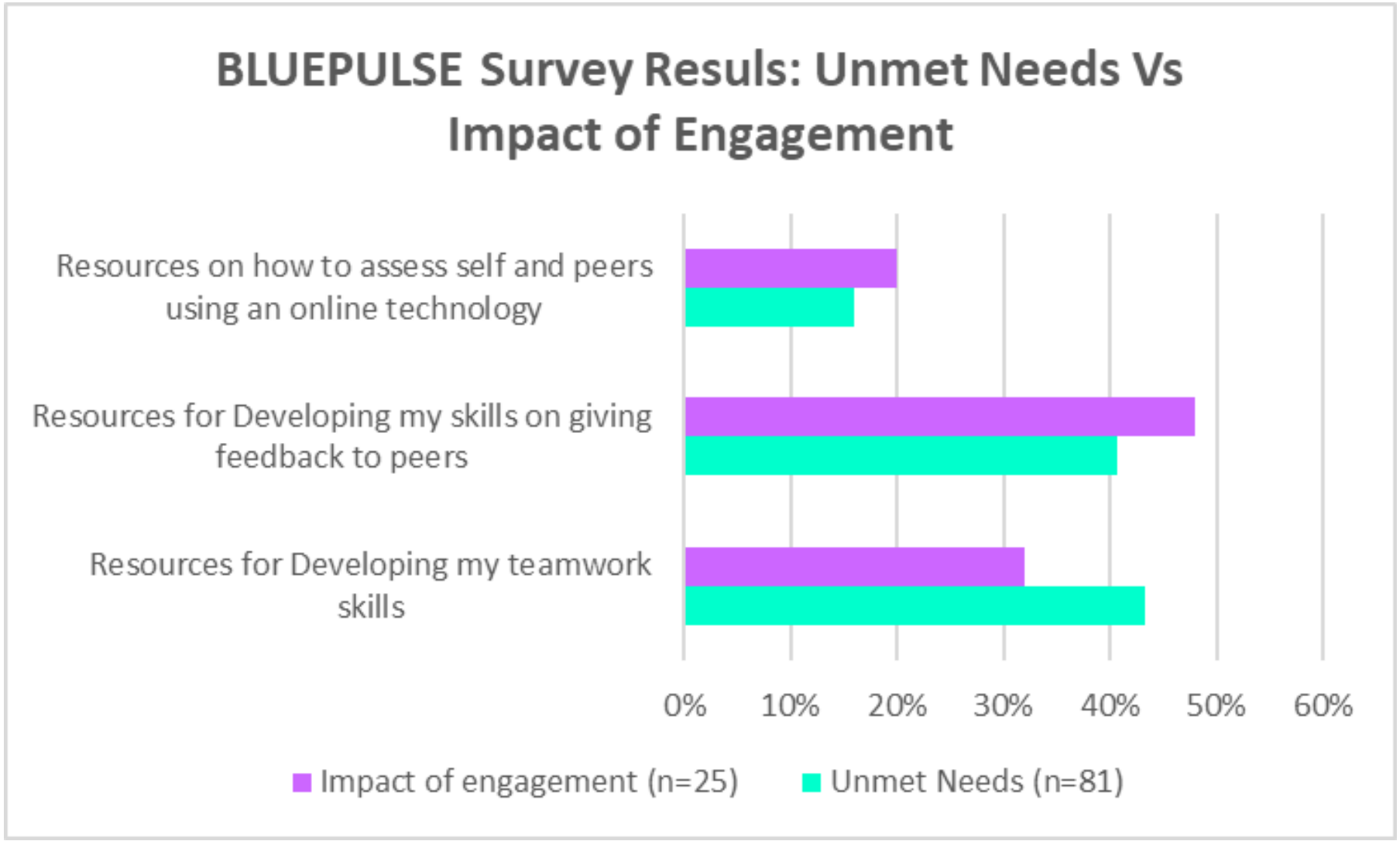
METHOD – SAMPLE AND ASSESSMENT DESIGN

- Sample and assessment design
  - 48 students consented to use their data for this research
  - Peer Assessment criteria covered include
    - contribution to work; interacting with teammates, Keeping team on track; Expecting quality
    - Intervention activities include video, PPT and teaching resources
  - Summative self and peer assessment and peer feedback
- Analysis Method
  - T-Test
  - A two way ANOVA

RESEARCH PROCESS STEPS



BLUEPULSE RESULTS



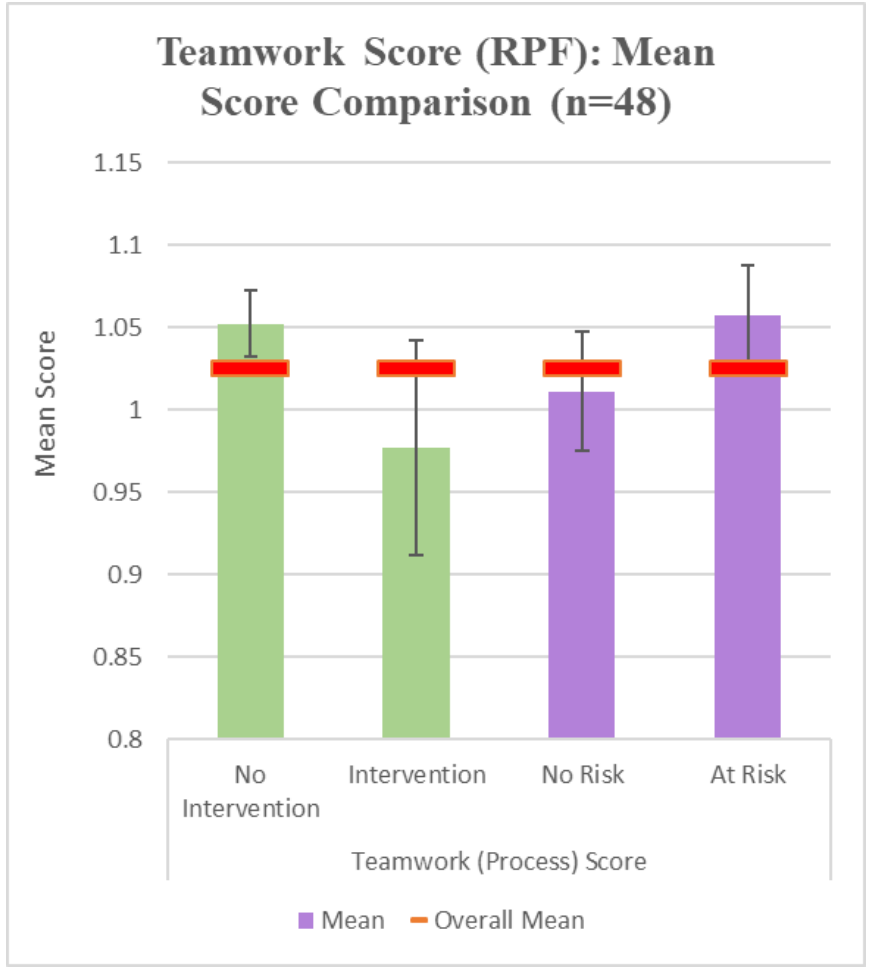
INTERVENTION MEASURES

Intervention Category	Intervention Items
Teamwork	Teamwork - Overview
	Coping with Hitchhikers and Couch Potatoes (Article)
	Teamwork - Set Your Ground Rules (Template)
	What Makes the Perfect Team (Google Project Aristotle)
	HSTalks: Emotional Intelligence in Teams
Feedback	The Art of Giving and Receiving Feedback Resources
	Feedback Make it Work for YOU!
	A Guide to Giving and Receiving Feedback
Self-evaluation	HSTalks Developing Self Evaluation Skills (for Per...
Self and Peer Assessment	What is Self and Peer Assessment?

EXAMPLE RESOURCE – COMMON TEAMWORK PROBLEMS AND DEALING WITH THEM!

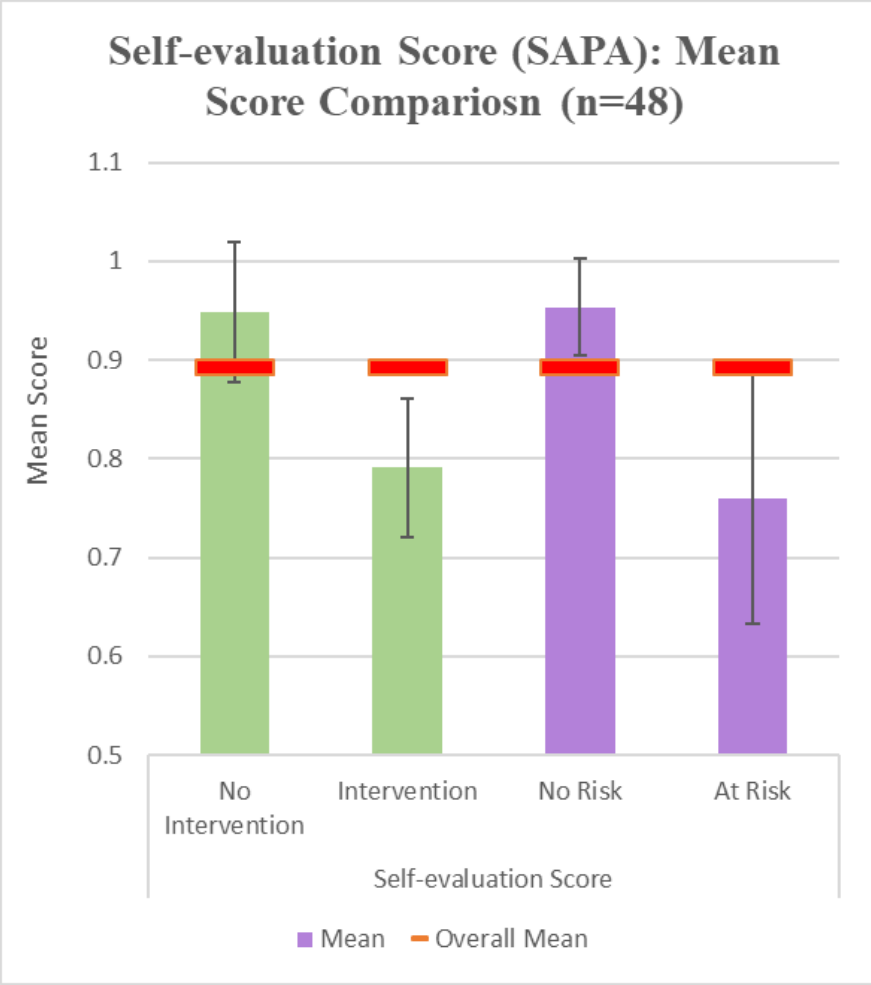
(Reference: Breslow, 2005, MIT)

FINDINGS: TEAMWORK PERFORMANCE SCORES



- No significant difference in teamwork behaviour score between different intervention group cohorts
- Unintended negative backwash effect?
- Same for risk group cohort students – but higher for at risk
- Is this due to intervention?

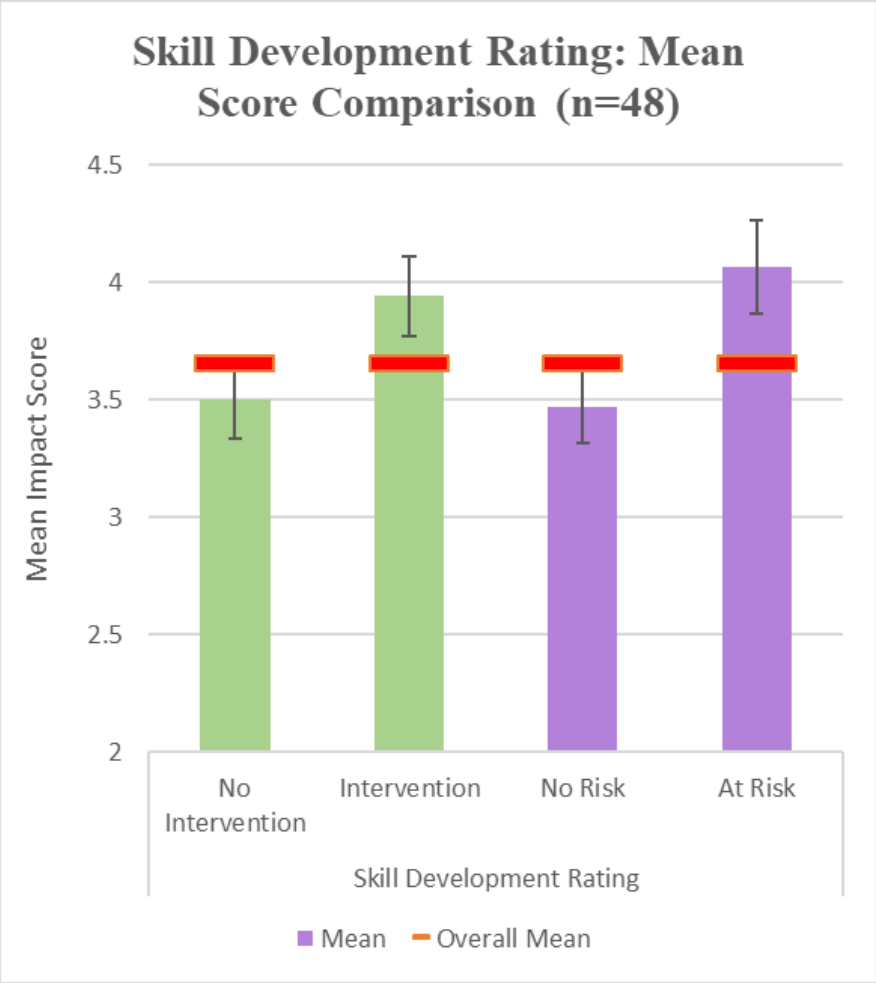
FINDINGS: SELF-ASSESSMENT SCORES



- No intervention group performed significantly better than intervention group (negative backwash effect?)
- No risk students performed better than at risk students
- Dunning-Kluger effect (for at risk cohort)?
- Explore if intervention had any impact on both groups

Note: Self assessment – not counted towards summative assessment and students are not aware that the system gives excluding self-assessment score
SAPA reversed score to consistency in measurement

FINDINGS – COMPARISON OF MEAN SELF-ASSESSMENT SCORES



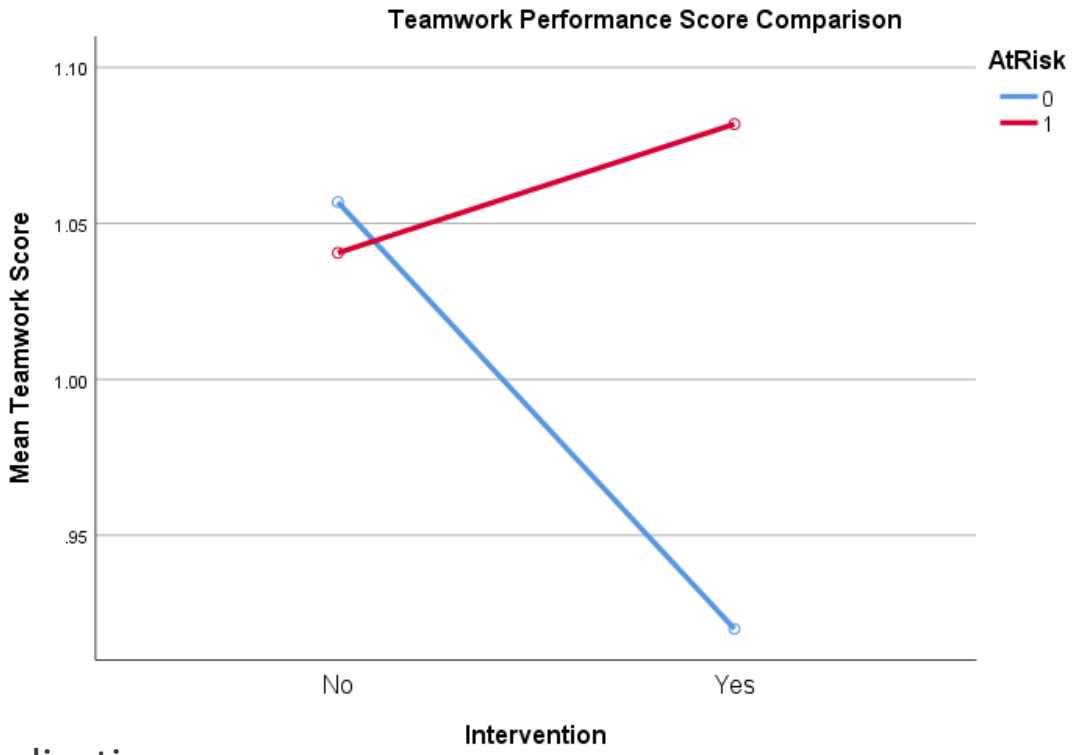
- Skill development impact rating higher for intervention group cohort
- Skill development impact rating higher for at risk group cohort
- Does not tell if intervention had an impact and if so, which group benefited?

FINDINGS – ANOVA

Hypothesis (Accept or Reject)	a. Teamwork Performance	b. Self-assessment performance	c. Skill Development rating
H1: Intervention Main effect	REJECT	REJECT	REJECT
H2: Risk Factor Main effect	REJECT	ACCEPT***	ACCEPT**
H3: Interaction effect	ACCEPT***	REJECT	REJECT
** 0.05 Level and *** 0.10 level			

- Significant Main effect of risk factor on Self assessment and skill development rating
- Significant Interaction effect (interdependency between intervention and risk factor) on Team work performance
- To identify the impact – comparison between groups required

DISCUSSION – INTERACTION EFFECT



- ❖ Intervention helped at risk students enhance their teamwork behaviour
- ❖ Intervention hindered no risk cohort – performed poorly after intervention

Implication:

- Lack of realisation that CATME system is powerful in evaluating students teamwork behaviour
- Counted towards summative assessment – grade inflation behaviour

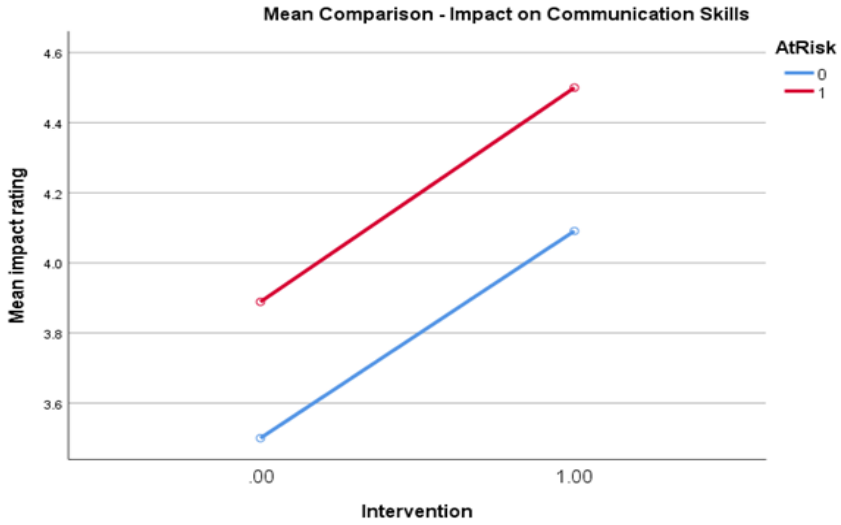
1.00	
1.05	High
0.88	
1.05	
1.00	Under
0.88	Cliq
1.02	Cliq
1.05	Cliq
0.91	Cliq

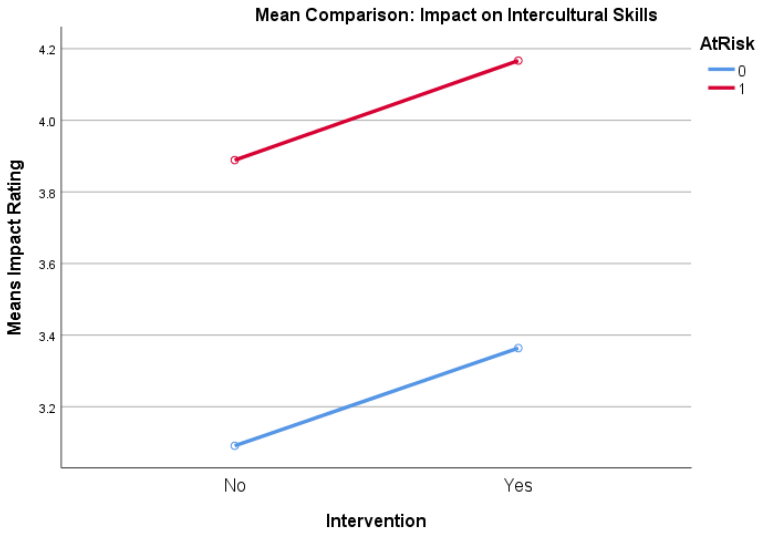
DISCUSSION – EVALUATIVE JUDGEMENT

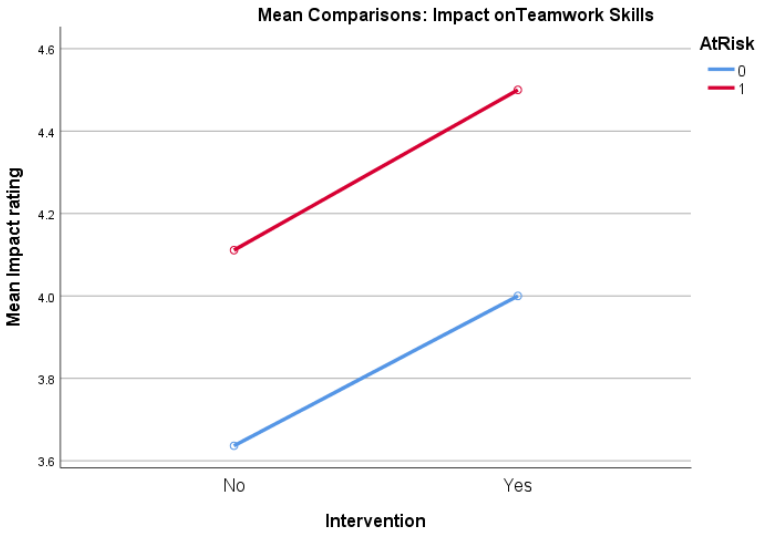
Lack of realisation that self assessment score is not counted towards final mark – possible inflated self-assessment score

- Intervention resulted in poor self-evaluation by both cohorts
- No risk cohort score is significantly higher than at risk cohort group
- Implication – intervention did not have positive impact on self-evaluation skills
- ***Grade inflation -*** Over inflated self assessment by both cohorts after intervention

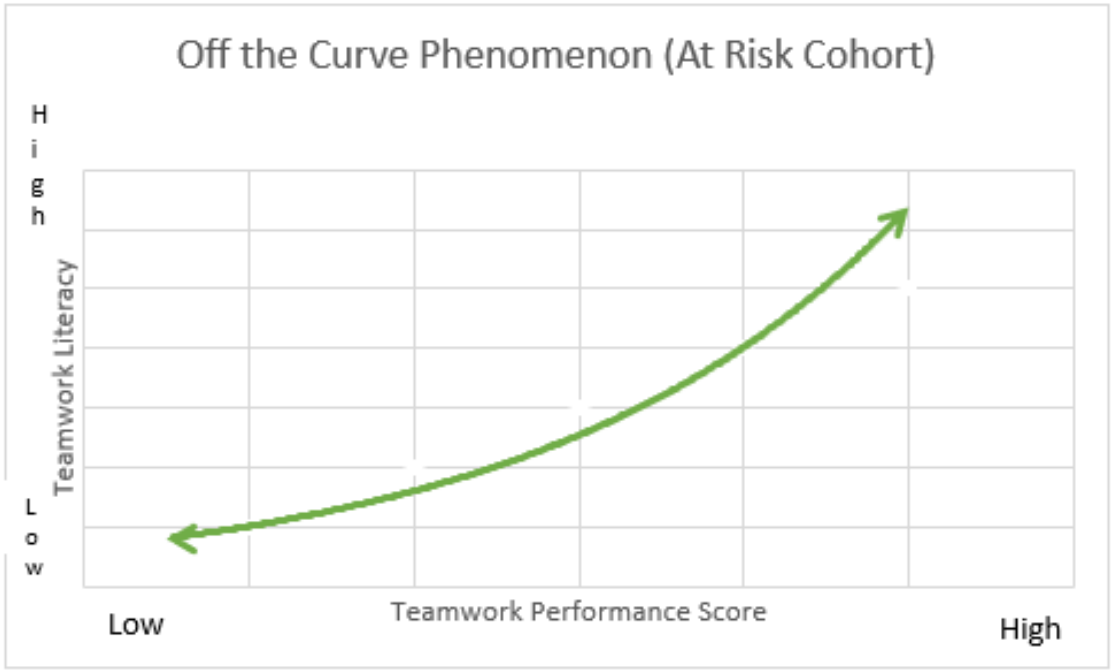
DISCUSSION – IMPACT ON SKILL DEVELOPMENT

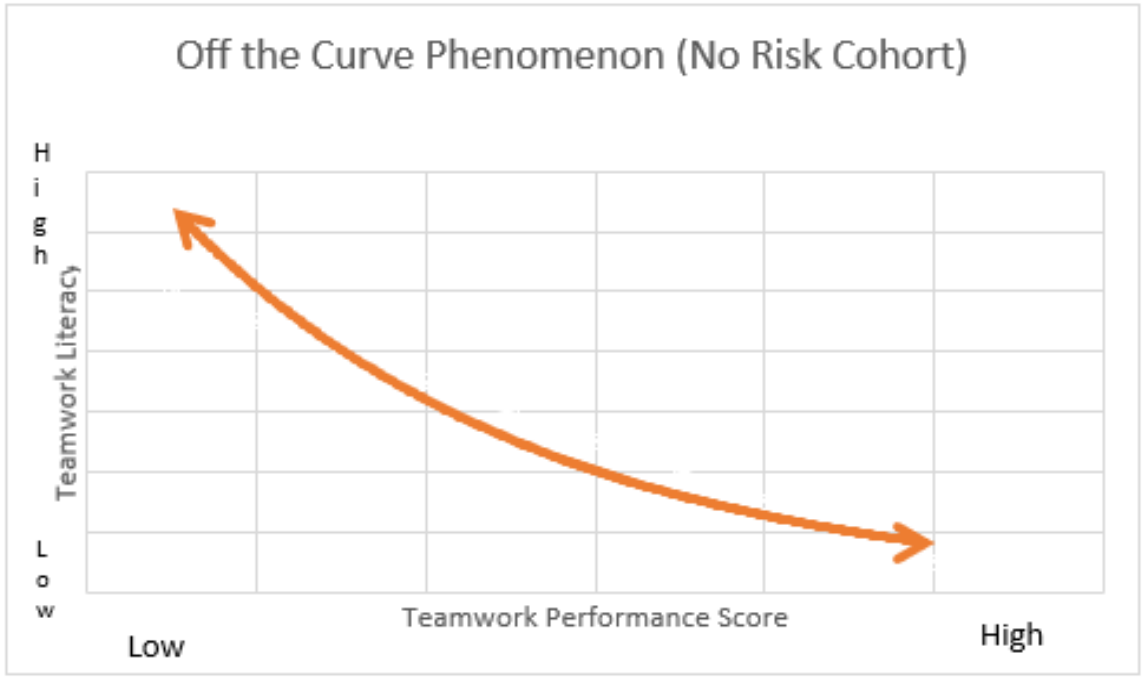






DISCUSSION – OFF THE CURVE PHENOMENON?



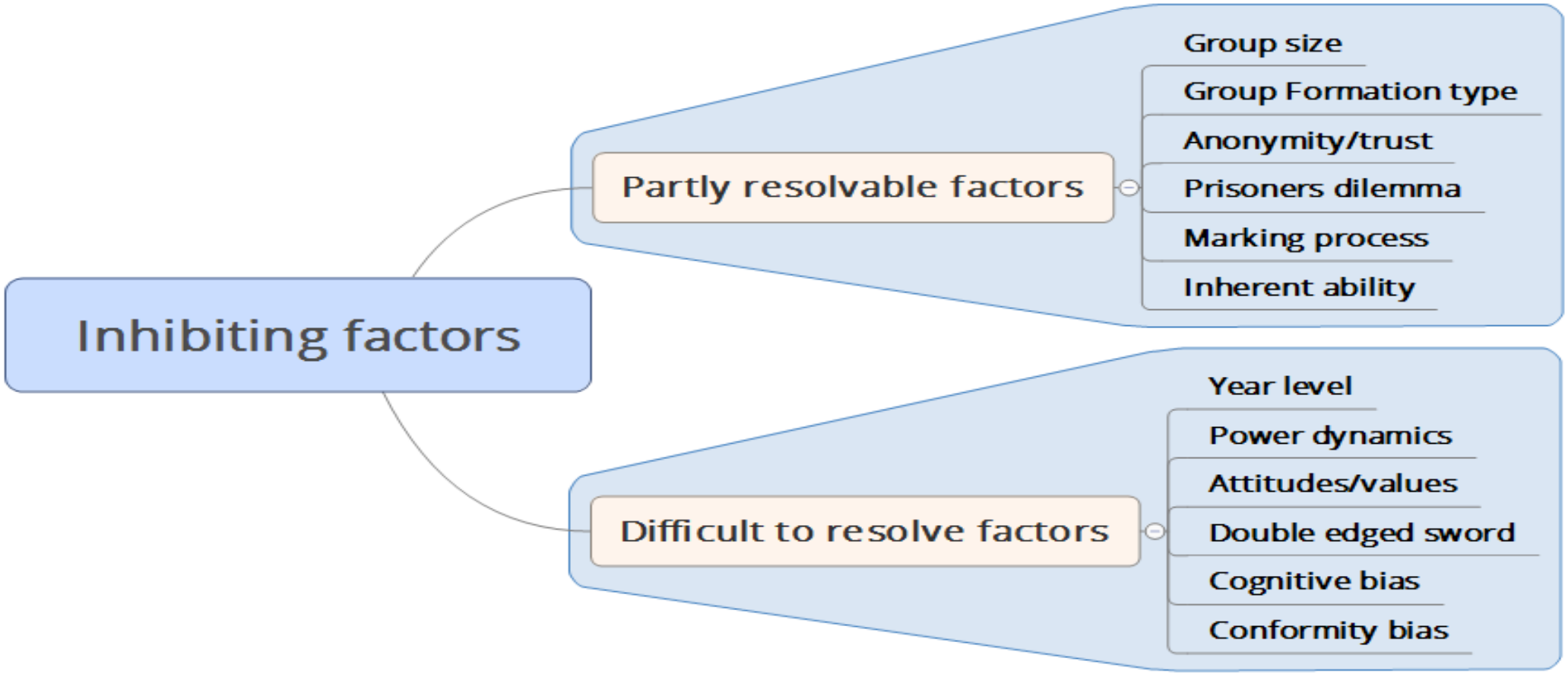


- So what? Questions to Ponder
  - To teach or not to teach – TW Literacy?
  - Selective coaching – TW literacy?
  - Identify strategies to deal with off the curve behaviour

DISCUSSION – IMPLICATIONS

- Negative backwash effect?
- Lone wolf phenomenon?
- Competitive culture?
- Cognitive bias? Cunnings – Kluger effect?
- Off the curve phenomenon

DISCUSSION – SO WHAT?



DISCUSSION – POINTS TO PONDER

- Paradox of teaching and applying
- Are we heading in the direction of **compliance** (or conformity) **bias**?
- Is it ***reasonable*** expectations from students?
- How to change the values and attitudes?
- How to bring awareness and education around sticky issues
- How to establishing psychological safety in group work contribution and peer assessment

LIMITATIONS AND CONCLUSION

❖Limitations and future plans

- Lack of generalisability of results – small sample size
- Formative assessment before summative – not included

❖Conclusion

- **Does Flipped feedback and intervention impact on Learning Outcomes?**
  - Yes – for TW behaviour – at risk cohort group
  - No – Evaluative judgement skills
  - Yes – Impact on skill development

THANK YOU!

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