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Innovations in Testing 2024

Sifting (Items) & Shifting (Processes):
Streamlining Content Review

BETTER TOGETHER
Embrace change. Share solutions.

The ask – find reusable items in existing banks

- **Veeam Certified Engineer v11**
  - Published 2021
  - 200 items
  - Many enemies

- **Veeam Certified Architect v11**
  - Published 2022
  - 120 items
  - Three big case studies

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Challenges

- **Item banks**
  - Lots to process
  - Many unusable
  - Multiple review angles
  - Readability an issue
    - multilingual writing team for global audience
    - writers had limited item writing training
   - no psychometric editorial

- **SMEs have limits**
  - Availability
  - Attention (avoid multitasking)
  - Not psychometricians

What?

- **Alpine's Item Screening & Feedback Tool (iSFT)**
  - Automated psychometrically sound content development and review workflows for better, faster, and more cost-effective exam development
  - Advanced heuristics on more than 20 psychometric, grammar, and exam development rules to quickly generate customized feedback on exam items
  - Includes identification of deprecated content, branding issues, and style preferences to highlight items with violations of best practices

What?

iSFT

+

Health Check

→

Existing Items to Consider for Retention
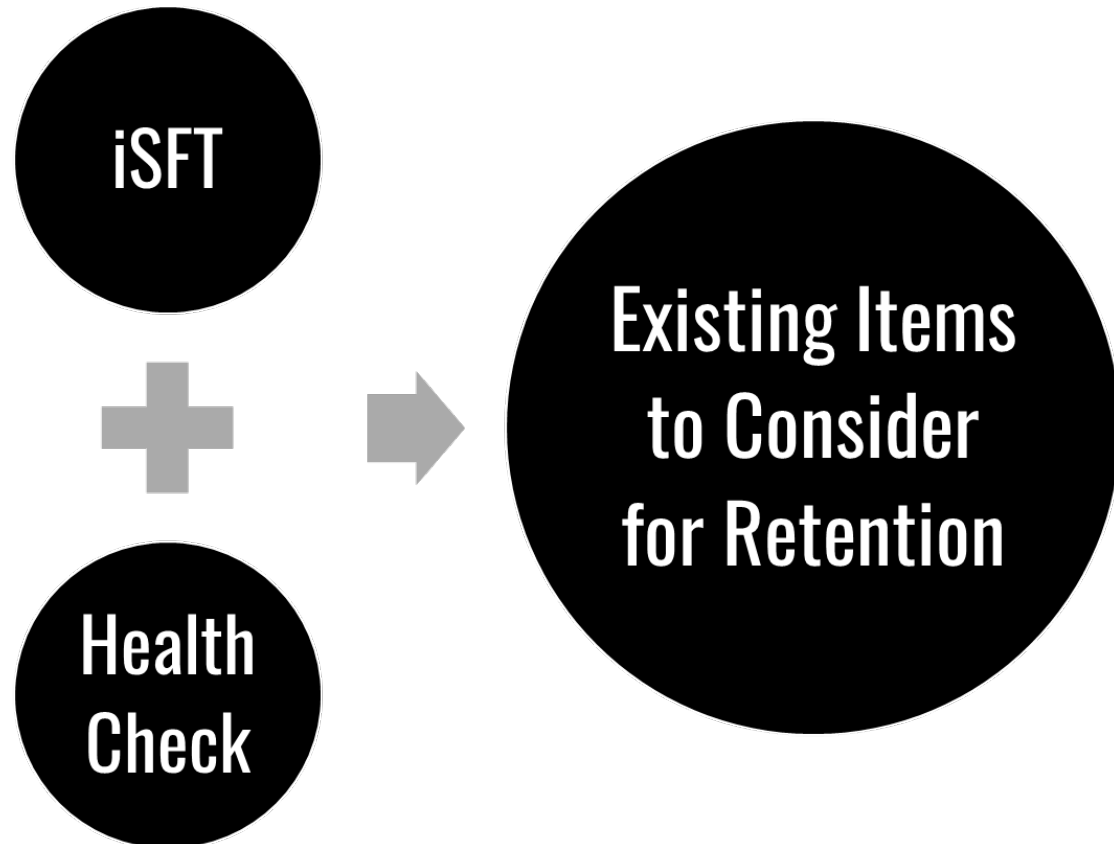
- **Combined to determine not only which items were performing well statistically but also adhered to quality item writing principles and program preferences**
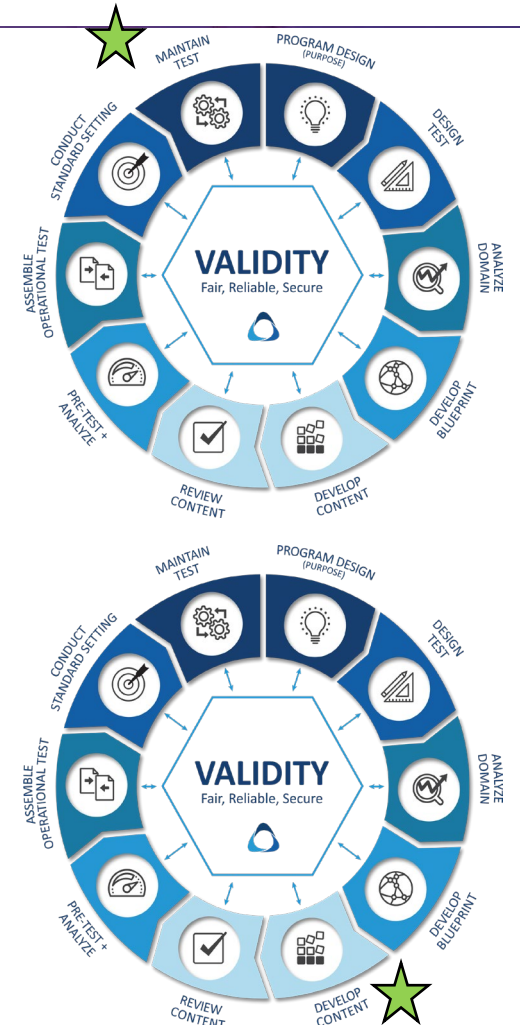
Why?

- Help Veeam to **Do More, With Less...** by leveraging technology-enabled processes to streamline content development and review in exam refresh

Reduced time to market for new exam refreshes

Optimized bank re-use to limit SME burden and decrease development costs

Interpreted the "contents of the content" to key in on potential issues and gaps

How?

🌴 Classified items based on joint statistical and iSFT flag types

- 🌐 Streamlined items in need of human review for disposition decisions and item mapping
- 🌐 Decreased net-new items in need of development in exam refresh

Alpine Testing Solutions

Item	Rasch Item Difficulty Measure	P-value	Item-Score Correlation	Item Reliability	P-Value	Correlation	iSFT Flag Count	iSFT Flag Type	Recommendation
1	0.62	0.635	0.298	0.144			1	CATA Issues	SME Review
3	3.25	0.184	0.001	0.000	NO		2	Avoid Pronouns, Option Balance/Length	Delete
5	2.31	0.294	0.140	0.064			2	Things to Remove, Avoid Pronouns	SME Review
11	-0.38	0.808	0.373	0.147			3	CATA Issues, Avoid Pronouns, Things to Remove	SME Review
21	0.56	0.697	0.259	0.119			2	Things to Remove, Avoid Pronouns	SME Review
30	0.81	0.610	0.355	0.173			0		Keep
33	-3.08	0.982	0.148	0.020	TE		2	Avoid Cueing, Avoid Pronouns	Delete
34	-0.13	0.808	0.225	0.089			2	Avoid Pronouns, Things to Remove	SME Review
35	-1.77	0.936	0.305	0.075	TE		0		Delete
36	1.15	0.537	0.412	0.206			1	CATA issues	SME Review

Combined data & iSFT analysis results

- ## Veeam Certified Engineer

Final Decisions	Item Count
Keep	82
Review	109
Delete	9
Total Items	200

- ## Veeam Certified Architect

Final Decisions	Item Count
Keep	30
Review	57
Delete	33
Total Items	120

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Easy wins

Flag Type	Description	Example Recommendations
Avoid Pronouns	Item uses "he", "you", etc.	Review stem for pronoun "you" and replace with role title to avoid gender bias.
Avoid Repetition	Options include repetitive language	Move repetitive language in options to stem.
CATA issues	Multiple response item stem does not double cue	Rephrase stem to include "Which three...?" as well as "(Choose 3)".
Grammar	Item contains a grammar issue	Stem contains run-on sentence. Revise to be shorter.
Things to Remove	Item contains ambiguous, subjective or unnecessary language	Remove "of the following" from the stem.

Useful guidance for SMEs

Flag Type	Description	Example Recommendations
Avoid Cueing	Stem may cue correct answer	Review to ensure stem will not point to correct option.
Option Balance/ Length	Varying option length makes one stand out	Revise so that all options are the same length.
Things to Remove	Item contains ambiguous, subjective or unnecessary language	Remove ambiguous language such as "can", "would", "will", or "could".
Phrase Positively	Stem is negatively not positively phrased	Revise stem to avoid negative terms like "not".

Multiple tricky flags = delete or deprioritise

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Questions?

Thank you!