Wolfberg, A. (2014). A theory of overload and equivocality effects on learning during knowledge transfer within policy making dyads. (Ph.D. Dissertation), Case Western Reserve University, Cleveland, OH.

Findings

Overall our mediated model included 14 hypotheses (Table B7) of which eight were supported and six were not. The mediated model (Figure B2) had a moderate explanatory power ($R^2 = .26$).¹ Dialogue ($R^2 = .40$) provided a strong explanatory power in its mediation effects primarily from the positive impact that perspective taking has on learning. Filtering ($R^2 = .15$) had a suppressor effect in that its presence was needed in order for some direct effects to be detected; similarly the case for Networking ($R^2 = .09$) and Dialogue.

¹ In the unmediated model the overload had a negative effect ($\beta = -0.156^{**}$, p=0.005), *H1a Supported*; equivocality did not have any significant effect ($\beta = 0.021$, p=0.709), *H1b not supported*. Feedback was non-significant ($\beta = -0.011$, p=0.857), *H1c not supported*. Perspective-taking had a positive effect ($\beta = 0.356^{***}$, p=0.000), *H1d supported*. The direct model had only a weak explanatory power (R2 = .15). The results from the mediated model discussed in the Findings section were quite different emphasizing the significance of analyst's mitigating behaviors in influencing their learning.

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TABLE B1

Results of Hypotheses Testing (standardized values) (*** p≤.001; ** p≤.01; *p≤.05)

	Hypothesis	Path	Std. Est.	p value	Supported?/Type Effect
1a	Overload reduces Learning	Direct w/o Mediator	-0.156	0.005	Yes/Direct
1b	Equivocality reduces Learning	Direct w/o Mediator	0.021	0.709	No/None
1c	Feedback increases Learning	Direct w/o Mediator	-0.011	0.857	No/None
1d	Perspective Taking increases Learning	Direct w/o Mediator	0.356	0.000	Yes/Direct
2a	Filtering partially and inversely mediates the negative relationship between Overload and Learning	Direct w/o Mediator	-0.156	0.005	Yes/Direct
		Direct w/ Mediator	-0.114	0.056	
		Indirect	-0.002	0.340	
2b	Filtering partially mediates the positive relationship between Feedback and Learning	Direct w/o Mediator	-0.011	0.857	No/None
		Direct w/ Mediator	-0.099	0.102	
		Indirect	-0.008	0.417	
2c	Filtering partially mediates the positive relationship between Perspective Taking and Learning	Direct w/o Mediator	0.356	0.000	Yes/Direct
		Direct w/ Mediator	0.152	0.036	
		Indirect	-0.009	0.417	
3a	Dialogue partially and inversely mediates the negative relationship between Equivocality and Learning	Direct w/o Mediator	0.021	0.709	No/Indirect
		Direct w/ Mediator	0.043	0.459	
		Indirect	-0.036	0.045	
3b	Dialogue partially mediates the positive relationship between Feedback and Learning	Direct w/o Mediator	-0.011	0.857	Yes/Indirect
		Direct w/ Mediator	-0.099	0.103	
		Indirect	0.071	0.000	
3c	Dialogue partially mediates the positive relationship between Perspective Taking and Learning	Direct w/o Mediator	0.356	0.000	Yes/Partial Mediation
		Direct w/ Mediator	0.150	0.036	
		Indirect	0.189	0.000	
4a	Networking partically mediates the negative relationship between Overload and Learning	Direct w/o Mediator	-0.156	0.005	Yes/Direct
		Direct w/ Mediator	-0.114	0.056	
		Indirect	0.005	0.254	
4b	Networking partically mediates the negative relationship between Equivocality and Learning	Direct w/o Mediator	0.021	0.709	No/None
		Direct w/ Mediator	0.043	0.459	
		Indirect	0.001	0.658	
4c	Networking partically mediates the positive relationship between Feedback and Learning	Direct w/o Mediator	-0.011	0.857	No/Direct
		Direct w/ Mediator	-0.099	0.102	
		Indirect	0.006	0.263	
4d	Networking partically mediates the positive relationship between Perspective Taking and Learning	Direct w/o Mediator	0.356	0.000	Yes/Direct
		Direct w/ Mediator	0.152	0.036	
		Indirect	-0.001	0.665	

In the mediated model, overload's direct effect on learning was approaching significance ($\beta = -0.114$, p=0.056). The indirect effect through filtering was insignificant ($\beta = -0.002$, p=0.340). Thus filtering indeed was observed to have a suppressive effect on the negative effect of overload on learning since the initial beta value ($\beta = -0.156^{**}$, p=0.005) changed to close to a zero effect, which was insignificant. Thus we found evidence that *H2a was supported given the direct suppressive effect*. In the absence of intervening variables, feedback did not have a significant direct effect on learning ($\beta = -0.011$, p=0.857). When filtering is added as a mediator, feedback has a negative small direct effect on learning approaching significance ($\beta = -0.099$, p=0.102). The effect on

Wolfberg, A. (2014). A theory of overload and equivocality effects on learning during knowledge transfer within policy making dyads. (Ph.D. Dissertation), Case Western Reserve University, Cleveland, OH. learning through filtering is also negative and non-significant ($\beta = -0.008$, p=0.417).

(H2b not supported). In the absence of mediating variables perspective-taking had a

significant positive direct effect on learning ($\beta = 0.356^{***}$, p=0.000). When filtering was

added perspective taking still had a significant, though smaller direct positive effect (β =

0.152*, p=0.036). There was no significant indirect effect via filtering ($\beta = -0.009$,

p=0.417). Thus, *H2c* was *supported with a direct effect*.



FIGURE B1 Significant Results

 $(*** p \le .001; ** p \le .01; *p \le .05)$

In the absence of intervening variables equivocality did not have a significant direct effect on learning ($\beta = 0.021$, p=0.709). When dialogue was added, the direct effect of equivocality on learning remained insignificant ($\beta = 0.043$, p=0.459). However, when

Wolfberg, A. (2014). A theory of overload and equivocality effects on learning during knowledge transfer within policy making dyads. (Ph.D. Dissertation), Case Western Reserve University, Cleveland, OH. dialogue was added equivocality did have a *significant indirect negative* effect (β = -

0.036*, p=0.045). Hence, *H3a* was *not supported* - to our surprise dialogue *increased* (though to small amount) the negative effects of equivocality. When intervening variables were absent feedback did not have a significant effect on learning ($\beta = -0.011$, p=0.857). When dialogue was added feedback approached a significant negative direct effect ($\beta = -0.099$, p=0.102), but had a significant positive mediated effect through dialogue ($\beta = 0.071^{***}$, p=0.000) *H3b supported, positive indirect suppressive effect*. When mediated variables were absent, perspective taking had a significant direct effect on learning ($\beta = 0.356^{***}$, p=0.000). When dialogue was added perspective taking still had a smaller direct positive effect on learning ($\beta = 0.150^*$, p=0.036) while some of this positive effect was significantly mediated through dialogue ($\beta = 0.189^{***}$, p=0.000). *H3c supported, positive mediated* perspective taking still had a smaller direct positive effect on learning ($\beta = 0.150^*$, p=0.036) while some of this positive effect was significantly mediated through dialogue ($\beta = 0.189^{***}$, p=0.000). *H3c supported, positive mediated* through dialogue ($\beta = 0.189^{***}$, p=0.000).

partial mediation.

Without the presence of intervening variables overload had a direct negative effect on learning ($\beta = -0.156^{**}$, p=0.005). When networking was introduced the negative direct effect was reduced ($\beta = -0.114^*$, p=0.056) while the indirect effect through networking was insignificant, though positive ($\beta = 0.005$, p=0.254). Hence, networking appears to have a suppressive effect on the effect of overload on learning: a significant negative effect of overload was changed to close to a zero effect when networking was introduced. Thus *H4a was supported, a direct suppressive effect*. When the intervening variables were absent equivocality did not have a significant effect on learning ($\beta = 0.021$, p=0.709). When networking was added the direct effect remained insignificant ($\beta = 0.043$, p=0.459) as did the mediated indirect effect ($\beta = 0.001$, p=0.690) *H4b* was *not supported*. When the intervening variables were absent feedback did not

Wolfberg, A. (2014). A theory of overload and equivocality effects on learning during knowledge transfer within policy making dyads. (Ph.D. Dissertation), Case Western Reserve University, Cleveland, OH. have a significant direct effect on learning ($\beta = -0.011$, p=0.857) When networking was added feedback did have a small negative direct effect on learning approaching significance ($\beta = -0.099$, p=0.102) while a non-significant positive, indirect effect through networking ($\beta = 0.006$, p=0.263) *H4c* was *not supported*. When mediated variables were absent perspective-taking had a significant direct on learning ($\beta = 0.356^{***}$, p=0.000). When networking was added perspective taking continued to have a (smaller) direct positive effect on learning ($\beta = 0.152^*$, p=0.036) while its indirect mediated effect to learning was negative and insignificant ($\beta = -0.001$, p=0.665). *H4d supported, direct effect*.