	Val-Unseen	+pre-exploration
$\text{Seq2Seq}_{\text{rand}}$	22.60	23.70 (+4.8%)
$\text{Seq2Seq}_{\text{aps}}$	24.18	26.95 (**+11.5%**)

$\text{Seq2Seq}_{\text{aps}}$	+pre-exploration
w/ randomly sampled	25.11
w/ APS sampled	**26.95**

Table 1. The comparison between $\text{Seq2Seq}_{\text{rand}}$ and $\text{Seq2Seq}_{\text{aps}}$ with the pre-exploration.

Table 2. The comparison between randomly sampled and APS sampled paths during pre-exploration for $\text{Seq2Seq}_{\text{aps}}$.

	20%	40%	60%	80%	100%
RCM_{rand}	44.2	44.5	44.9	45.8	45.6
RCM_{aps}	**45.0**	**46.4**	**47.2**	**47.4**	**47.7**

Table 3. The comparison between randomly-sampled and APS-sampled under validation-unseen sets for RCM over different ratios of augmented path used.

1 Appendix

1.1 aug_{rand} + pre-exploration

Since $\text{Seq2Seq}_{\text{rand}}$ does not have a path sampler, it can only randomly sample paths during the pre-exploration. The comparison between $\text{Seq2Seq}_{\text{rand}}$ and $\text{Seq2Seq}_{\text{aps}}$ with the pre-exploration under val-unseen is shown in Table 1. We can see that the benefit is quite minor for $\text{Seq2Seq}_{\text{rand}}$+pre-exploration (only 5% relative improvement). However, benefiting from the challenging paths sampled by our APS model, $\text{Seq2Seq}_{\text{aps}}$ can gain more than 11% relative improvement through the pre-exploration.

Table 2 presents the comparison between randomly sampled and APS sampled paths during pre-exploration for $\text{Seq2Seq}_{\text{aps}}$. The original SR of $\text{Seq2Seq}_{\text{aps}}$ is 24.18. It shows that more challenging paths that are sampled by our APS model can benefit more when pre-exploring unseen environments than randomly sampled ones.

1.2 Ablation Study on RCM

The results (SR) under the val-unseen of RCM are shown in Table 3, which follow a similar trend as in Fig. 5.