

Table 1: AP of TGNNs under the inductive negative sampling strategy introduced in Pour-safaei et al. (2022).

	EN	LA	UC	UV
TGN	70.89 ± 2.72	65.95 ± 5.98	70.94 ± 0.71	67.63 ± 2.67
+TPE, TRC	80.93 ± 4.77	78.84 ± 0.09	75.60 ± 0.29	74.17 ± 2.47
Imp. (%)	14.16%	19.54%	6.56%	9.66%
CAWN	75.88 ± 0.00	66.90 ± 0.01	63.10 ± 0.01	53.20 ± 0.01
+TPE, TRC	81.88 ± 0.01	78.76 ± 0.01	71.67 ± 0.03	72.66 ± 0.02
Imp. (%)	7.91%	17.72%	13.57%	36.57%
DyGFormer	77.41 ± 0.89	72.88 ± 0.50	72.25 ± 1.71	51.91 ± 0.84
+TPE, TRC	80.89 ± 0.25	73.63 ± 0.64	75.39 ± 1.13	61.43 ± 4.82
Imp. (%)	4.50%	1.03%	4.35%	18.33%

Table 2: AP of TGNNs under the historical negative sampling strategy introduced in Pour-safaei et al. (2022).

	EN	LA	UC	UV
TGN	73.91 ± 1.76	76.87 ± 4.64	80.43 ± 2.12	69.37 ± 3.93
+TPE, TRC	77.38 ± 5.45	83.29 ± 0.95	74.81 ± 0.05	69.40 ± 0.78
Imp. (%)	4.69%	8.35%	-6.99%	0.04%
CAWN	65.72 ± 0.00	69.75 ± 0.00	64.25 ± 0.00	51.00 ± 0.00
+TPE, TRC	71.41 ± 0.02	81.49 ± 0.00	82.24 ± 0.00	81.40 ± 0.00
Imp. (%)	8.66%	16.82%	27.99%	59.61%
DyGFormer	75.63 ± 0.73	81.57 ± 0.48	82.17 ± 0.82	60.84 ± 1.58
+TPE, TRC	75.14 ± 0.03	82.88 ± 1.35	82.81 ± 0.49	53.94 ± 0.78
Imp. (%)	-0.65%	1.60%	0.78%	-11.35%

Table 3: MRR of TGNNs under various numbers of negative links during testing.

	EN	LA	UC	UV
NEG = 1				
GraphMixer	0.165 ± 0.004	0.197 ± 0.008	0.522 ± 0.006	0.032 ± 0.001
+Log-TE, TRC	0.258 ± 0.000	0.260 ± 0.033	0.615 ± 0.020	0.037 ± 0.000
Imp. (%)	55.73%	32.10%	17.77%	18.17%
NEG = 25				
GraphMixer	0.019 ± 0.000	0.046 ± 0.000	0.170 ± 0.004	0.0020 ± 0.000
+Log-TE, TRC	0.024 ± 0.002	0.060 ± 0.000	0.185 ± 0.019	0.0024 ± 0.000
Imp. (%)	28.16%	29.05%	9.06%	20.00%
NEG = 50				
GraphMixer	0.011 ± 0.000	0.034 ± 0.000	0.120 ± 0.001	0.0011 ± 0.000
+Log-TE, TRC	0.013 ± 0.001	0.042 ± 0.003	0.136 ± 0.019	0.0013 ± 0.000
Imp. (%)	21.80%	22.89%	13.46%	13.04%

Table 4: MRR of TGNNs under various numbers of negative links during testing.

	EN	LA	UC	UV
NEG = 1				
DyGFormer	0.326 ± 0.001	0.392 ± 0.009	0.728 ± 0.011	0.038 ± 0.001
+Log-TE, TRC	0.345 ± 0.003	0.435 ± 0.019	0.743 ± 0.004	0.035 ± 0.001
Imp. (%)	5.78%	11.03%	2.08%	-7.77%
NEG = 25				
DyGFormer	0.042 ± 0.000	0.090 ± 0.007	0.266 ± 0.031	0.002 ± 0.000
+Log-TE, TRC	0.044 ± 0.000	0.115 ± 0.010	0.301 ± 0.013	0.003 ± 0.000
Imp. (%)	3.77%	27.15%	13.27%	2.04%
NEG = 50				
DyGFormer	0.023 ± 0.000	0.063 ± 0.005	0.194 ± 0.029	0.0012 ± 0.000
+Log-TE, TRC	0.025 ± 0.001	0.080 ± 0.006	0.233 ± 0.008	0.0013 ± 0.000
Imp. (%)	11.89%	25.63%	19.93%	8.33%