

Annex A – ELO overall

ELO principles

The overall ELO system has been created by Arpad ELO, PhD in Physics, from Hungary. It is used to grade chess or go players. In accordance, the overall system adapted for AdlG is based on ELO's system.

Since a player participates to an official AdlG tournament, he is automatically graded with an ELO points level. All calculations to refine the ELO levels are done on AdlG internet site, related to the results provided by the umpires at the end of their tournaments.

Each player starts with 1,000 ELO points for the first time. This amount is modified each match whatever he wins or loses as the following rules.

The ELO overall is updated at the end of each tournament.

ELO points calculations

The ELO level of the 2 players (A and B) is updated after their match as follows:

$N'A$ or $B=NA$ or $B+KA$ or $B.(S-P(A$ or $B))$

with:

- S equals to the results of the match = 1 for a victory, 0.5 for a draw and 0 for a defeat.
- P(A or B) equals to the winning probability for a player (A or B) to win the match played, taking into account the level of his opponent. It ranges from 0 to 1 and it is expressed as percentage (0.1=10%).
- KA or B is a constant giving the maximum value that the player's level can increase or decrease:
 1. 50pts; the player concerned has played less than 10 official rounds.
 2. 30pts; it is the general case.
 3. 15pts; the player concerned has played 10 official rounds and his ELO level is 1,400pts or more.

So P (A or B) is the probability of a player (A or B) to win the other and it is define as:

For player A, $P(A)=1/(1+10^{((NB-NA)/500)})$

For player B, $P(B)=1/(1+10^{((NA-NB)/500)})$

NA or B is the level of each player before the match (ie. 1,000 points in case of a beginner).

For instance, 2 players with the same ELO pts. level have the same probability to win (i.e. 50%) and they will win or lose an amount of ELO pts. equals to the half of their KA or B.

As KA can be different from KB, it is possible that one player loses more points than the other player wins (or vice versa). This could be the case when a Master loses face to a beginner.

Moreover when the ELO pts. level's difference is more than 500pts, the player with the upper level can't earn any points for its probable victory. But he still could lose some point if he loses the match.

Examples:

Player A is a beginner (NA=1,000) and he plays a more experience one (NB=1,200). His probability to win is $P(A)=28\%$. The probability of his opponent (player B) is $P(B)=72\%$. As KA=50, player A wins 35 ELO pts if he wins. Player B, with a KB=30, can only win 8 ELO pts. in case of victory.

Overall Ranks

The ELO level of a player can give some information about his general ability, in AdLG, over a long period of time.

- less than 700pts Quartermaster
- btwn 700 and 799pts Militiaman
- btwn 800 and 899pts Reservist
- btwn 900 and 1,099pts Soldier
- btwn 1,100 and 1,199pts Knight
- btwn 1,200 and 1,299pts Champion
- btwn 1,300 and 1,399pts Master
- btwn 1,400 and 1,499pts Great Master
- 1,600pts and over Strategist

Remarks:

The rank of Master is given to a player with minimum 1,300 ELO pts. and 10 official matches. Otherwise (i.e. less than 10 matches), his rank is Seneschal.

The rank of Great Master is given to a player with a minimum of 1,400 ELO pts. and 20 official matches. The minimum of official matches to be granted with the rank of Strategist is 30.

Downgrading the player ELO level

The ELO level of a player is for his all life. But in order to take into account the players' regular attendance, their ELO level can be downgraded each year, at the end of the championship. A player with more than 1,000pts can lose 100 ELO pts. if he has not participated to any tournament during the last championship. But his level by this means can't drop down under 1,000pts.