THE IRISH CHESS UNION GRADING SYSTEM

The I. C. U. uses the Elo System of grading, a system devised by Professor Arpad Elo for the U.S.C.F., and adopted by F.I.D.E. for rating international play. The I.C.U. feels that a simple note describing how the system is applied to Irish gradings would be of interest to local chessplayers. Anyone interested in the more mathematical aspects is referred to Prof. Elo's book on the subject.

The system is based on the principle that a given grading difference between any two players indicates a particular expected score for each against the other. Like the U.S.C.F. the l.C.U. uses simple approximations to this underlying probability curve, as it is known.

Rating a New Player :
The rating assigned to a new player depends on the gradings of his opponents and, of course, his results. If all his opponents are graded it can be found by the following steps:

1) Sum his opponents' gradings.
2) Add 400 for each win, deduct 400 for each loss.
3) Divide by the number of games played.

Example :
An ungraded player scores 1½/6 vs 1350, 1200, 1100, 900, 850 and 810.
What is his initial grading ?

1) Sum of opponents' gradings is 6210.
2) He lost three more games than he won, deduct 1200 leaving 5010.
3) Divide by 6, the number of games, giving 835.

This player will be assigned a provisional grading of 835/6. The term "provisional" infers that it is a less reliable indication of strength than a full grading and it will change in a different way.

Playing Unrated Players:
If you play an ungraded player what effect does it have on your grading? In the above example the figure of 835 will be used for that player in regrading his opponents.
The post-tournament grading is used for regrading all opposition. Where a number of ungraded players has met each other the problem is more difficult. Here the total opponents gradings depend on the unknown grading of one or more ungraded opponents.
The simultaneous equations involved are solved by algebra. Where the number is large - as it is in the lower divisions of leagues - the gradings which will be consistent between the players are found by successive approximations. This is a long and tedious method.
New gradings which reflect interplay between ungraded players cannot be as reliable indicators as new gradings based on play against graded players only,
The minimum number of games required for a provisional grading is five. Players with less have their figures calculated for the purpose of dealing with their opponents.
If a player accumulates the five games in different competitions efforts are made to coordinate although the fact may be overlooked.

Regarding Provisionally-graded players :
The approach to this is similar to the procedures for grading a new player except that account is taken of the players previous record. For the main cases the following steps are followed :

1) Sum opponents' gradings.
2) Add 400 for each win, deduct 400 for each loss.
3) Add the previous provisional grading times the number of games on which it is based.
4) Divide by the total number of games now accumulated.

Example :
1300/5 scores 1½/4 vs 1400, 1300, 1200, 980. Recalculate.

1) Sum of opponents' gradings is 4880.
2) He lost one more than he won - deduct 400 leaving 4480.
3) Add 1300 (old p - grading) times 5, i.e., add 6500 giving 10980.
4) Divide by 9, the total number of games, giving I220.

His new grading is 1220/9.

Players under 1200:
To reflect rapid improvement accelerated formulae apply to provisionally- graded players under 1200 who score at least 40% in a minimum of five games. For such players a "performance rating" (i. e. , the grading he would get if he was a completely new player) is calculated and one of three situations apply :

1) In spite of the 40% + score it may be less than his old grading. In such cases the normal procedure described above is followed.
2) It may be between his old grading and 1200. If so it is taken as his new grading.
3) It may exceed 1200. If so his new grading is calculated as if he had an old grading of 1200.

When a player has accumulated 12 or more graded games his grading is no longer designated provisional. The theory of the system would suggest a higher figure but we have retained the lower figure for the present.

Regrading Graded players :
For the majority of players the basic formula for calculating grading adjustments is +16 for each win, zero for a draw and -16 for a loss, adjusted for 4% of any grading difference. Grading differences of more than 350 points are counted as 350. The grading difference adjustment will be added where opponents are higher graded and deducted where they are lower graded. A number of one-game examples might show how adjustments are calculated.

1) 1400 beats 1550. He gets 16 for the win plus 4% of 150 giving +22.
2) 1400 loses to 1550. He loses 16 for the loss but gets 4% of 150 giving -10.
3) 1400 draws with 1550. Zero plus 4% of 150 gives +6.
4) 1400 loses to 2000. Minus 16 plus 4% of 350(max) gives -2.
5. 1400 beats 1200. Plus 16 minus 4% of 200 gives +8.

In practice all the games from a tournament are graded together. Thus regrading 1600 for 4/6 vs 1000, 1500, 1550, 1600, 1650, 1975,we can proceed by the following steps :

1) He won two more games than he lost. He gets +32 on this count.
2) We must adjust for 4% of the grading difference.

Opponent	1000	1500	1550	1600	1650	1975	Total
Difference	-350	-100	-50	Nil	+50	+350	-100

Note how the 350 limitation applies.

3) 4% of the grading difference gives -4.
4) The total grading adjustment is therefore +32-4 giving +28.

In practice we would not write down all of this. The grading difference would be found by summing the opponents (minimum 1250, maximum 1950) and deducting 6 times 1600. It is also of interest to note that the answer did not depend on which of his opponents he won against. He might have lost to 1975 and beaten 1000 or vice versa. His overall score

and the quality of the opposition alone affected his adjustment.

Players under 1200
Again accelerated rules may apply to players in this category scoring 40% or more in a minimum of five games. If the performance is less than the old grading, in spite of the 40% score, the normal formula (16 and 4% is used. If the performance lies between the old grading and 1200 it becomes the new grading. If it exceeds 1200 he is given a starting point of 1200 for regrading.

Example :
1100 scores 3½/6 vs 1100, 1150, 1180, 1200,1210 and 1260 (total 7100)
This is a performance of: (7100+400)/6 = 1250
His new grading will be 1200 + 16(wins - losses) +4%(7100-6 x 1200) = 1200+16-4 = 1212

Players over 2000 :
Active players over 2000 are adjusted at half-rate by using factors of 8 and 2%. However players over 2000 playing less than 16 graded games in the year will be adjusted at full rate although supplementing lists in the meantime may only reflect half-rate adjustment.
[Players <2000 going over go to ½ rate immediately, e.g. 1990+30 (on 4%) ---> 1990+10+ ½(20)=2010]

Bonuses:
Where a player's performance is significantly improved on his grading he may earn bonus points. A threshold is set which depends on the number of games (32 for 4 games plus 3 for each additional game) and any gain over this is considered significant and is doubled. Thus the threshold for six games is 38 points so a player having a normal gain of 50 points on 6 games will get an additional 12, giving +62 points in all. This feature is used to help fast-improving players attain a proper level of grading quickly. The thresholds for active players over 2000 are halved.

Feedback Points :
Depending on the state of the rating pool a system of feedback points may be used to prevent deflating unduly the gradings of players who meet fast-improving players. This reflects the excess loss or inadequate gain given by the normal formula where the opponent was "obviously undergraded" . This is not necessarily a permanent feature of the system.
On occasion global adjustments have been made to all gradings to compensate for a general deflation in gradings.

Order of Grading:
The order in which the various groups are graded is as follows :

1) Ungraded.
2) Provisionally graded under 1200.
3) Provisionally graded over 1200.
4) Graded under 1200.
5) Graded over 1200.

The newly-calculated gradings of prior groups are used in grading subsequent groups.
Large alterations in later groups may also be fed back to prior calculations .

Significance of Gradings:
The absolute level of gradings is not important although efforts are made to keep them consistent with F.I.D.E. levels. What matters is the differences between gradings.
A higher grading is not conclusive proof that a player is better. Small differences in grading have practically no significance (after all there is a swing of 32 points on one blunder) but with larger differences more confidence can be placed in the evidence. Even then a player may have improved form which is not yet reflected in his grading.

Checking Gradings:
Even if you follow the procedures outlined our calculation may differ from yours for several reasons. We may have more up-to-date information. The order of grading or operation of feedback points may affect the answer. You may be forgetting that walkovers are not graded. Or we may have made a mistake. Even then we regret that it is not practical to provide a recheck service. Players should also avoid the natural tendency to remember only favourable results.

Graded Tournaments :
Players must know in advance if their games are to be graded. Thus if you propose running a graded event outside those under the auspices of the provincial unions or junior associations you should check in advance that it will be accepted for grading. Club championships can be accepted on this basis. The fastest rate of play acceptable for graded tournaments is 45/60 - forty-five moves in an hour. This is quite fast though possibly suitable for certain junior events. A more normal rate is probably 36/90. Allegro finish is acceptable where the minimum add-on is 15 minutes per player and the total playing session, including allegro, at least three hours. Pure allegros of this length without an intermediate time check may also be considered for grading.

A player will not improve without playing and all are encouraged to support as fully as possible the events of the chess circuit. Since Oisín Ó Siochrú pioneered I.C.U. gradings in 1968/1969 it has provided a great stimulus to chess activity as we all have something to play for and against which to measure our performances. With this growth has come greater organisational demands and players are also asked to consider how they might give something back to the game.

This note on grading should help explain the system to interested club-members. Please display it or make copies.

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I. C. U. Grading Committee
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