



The 10 Biggest Roadblocks to Improvement

Dan's Quote of the Month: *Sometimes getting better involves not trying to do too much, but rather just concentrating on those things that really help.*

COLUMNISTS

Novice Nook

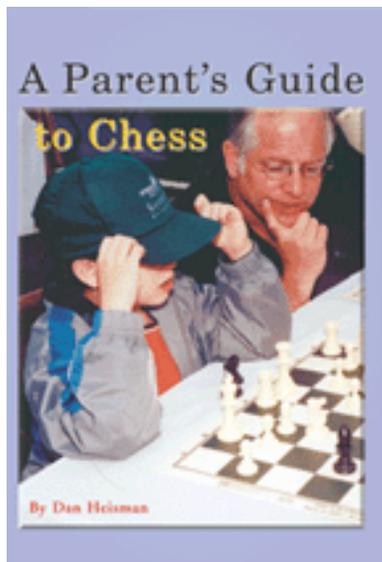
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Most adults rated 1000 to 1600 who strive to improve their game run into similar roadblocks. Being aware of your problems is often half the battle, so this article presents the *ten biggest mistakes involving adult chess improvement, and what can be done about them*. I will try to estimate the effect that *completely* correcting each error would have on a 1200 player's playing strength. For comparison, if one learns a new idea on the 12th move of the Caro-Kann, I would estimate that is worth somewhat less than 0.1 rating point. Gains estimated for each mistake are *not* necessarily additive since the mistakes are not mutually exclusive.

1. **Roadblock: Not learning an adequate thinking process** (not playing *Real Chess*). When learning chess you are taught how the pieces move, but rarely given good advice on how to think, so almost everyone adopts a self-taught thinking process. What are the chances a beginner will stumble upon an effective method?

What you can do about it: If you did not catch my earlier **ChessCafe** articles about thinking processes, the following steps summarize Real Chess, which is not always done consciously nor needs to be practiced every move (for example, book opening moves!):

A) For each candidate move, consider all of your opponent's possible dangerous replies, for example the checks, captures, and threats, and try to find at least one answer for each. If he has even one reply that you cannot meet, then you almost undoubtedly have to reject that candidate move (unless you are losing and all





moves lose anyway).

B) If a candidate move passes test “A”, do not play it. Evaluate the position resulting from the best moves for each side. Whenever possible, don’t make your evaluation until the position is quiescent. If you decide to sacrifice “on intuition” before quiescence, that is not unreasonable, but at least determine that you cannot clearly refute the sacrifice.

C) Repeat A & B for all reasonable candidate moves (“If you see a good move, look for a better one”) and play the one with the highest evaluation for you. The expected move sequence becomes your “Principal Variation”.

D) A, B, & C must be practiced on all moves that require it, assuming you have the time. If you only follow it on 95% of those moves each game, then if your opponent surprises you on the remaining 1 or 2 moves with a threat you did not consider and cannot meet, that failure is likely enough to cause a loss. This process is not necessary if you have only one legal move, are in time trouble, are mating with a queen and king vs. king, etc.

When I listen to adults think “out loud”, they often *try to prove that the move they are considering is reasonable instead of trying to prove that it is better than any other move!* This method might be OK if you are already a terrific player, your superb judgment tells you that your candidate is likely the best move, and you just want to verify its tactical solidity. However, almost all the players are not yet that caliber, and the insufficient process they are practicing can both allow unstoppable threats and miss clearly better alternatives.

Instead of thinking (as a simplified example!) “If I play move A and he plays B - the move I would play if I were him - and I play C then we reach position C’. If I play move D and he plays E and I play F and we reach position F’, then which is better for me, position C’ or position F’?”, they think “Suppose I play A; then that improves my position in such-as-such way, so I’ll play A.”

They not only don’t follow the rule “If you see a good move look for a

better one” but also get surprised when the opponent plays “B” and are lucky if they have the saving move “C”; I call this erroneous method “Hope Chess” because if the opponent makes a threat they hope they can meet it. Not good.

Of course, not all good players think the same way and each does not go through the same conscious thinking process every move. However, each has certain similarities that allow him to detect and meet upcoming threats, or else he would not be a strong player.

Many weaker players who think they play Real Chess actually do not. A 1200 player who starts playing Real Chess usually gains about 300 rating points! But he must follow step D – do it all the time – or else it is not worth much at all.

2. Roadblock: Not adequately learning the basic tactical motifs

This problem includes not carefully *counting* on each move to determine piece safety. You would be surprised how many players believe they are sound at tactics, and then it turns out they often count incorrectly on relatively simple capturing sequences! Besides counting, basic tactics include all common “single motif” patterns: pins, double attacks/threats, trappable piece, removal of the guard, skewers, etc.

What you can do about it: Like the multiplication tables are to algebra, recognizing basic, recurring tactical patterns quickly and accurately are the keys to higher-level tactics. For example, the excellent bishop vs. knight evaluations of Silman’s *How to Reassess Your Chess* are worthless if you drop a knight on move 17 to a queen check “because you didn’t see it”. Repetitive solving/viewing of the most common motifs/patterns is required until you can easily see when you (or your opponent) are in obvious danger. Learning to quickly recognize/handle common counting and capturing sequences is a very helpful skill: you should look for both player’s checks, captures, and threats (note how recognizing common tactical patterns overlaps with an adequate thinking process). Unlike the correction of some other problems, learning how to recognize and deal with the most basic tactical patterns takes time. Learning “cold” 500-1000 of the most basic motifs is worth 100-200 rating points, at least. On the other hand, practicing advanced tactical puzzles is only worthwhile if you know the basic stuff really well, and can almost be considered a waste of time if you do not.

3. *Roadblock*: **Not practicing good time management**

This means not pacing yourself to use almost all your time every game: playing much too fast or much too slow. Most weaker players play too fast no matter what the time control. This error is related to #1 because applying a good thinking process each move takes time. Visit any big OTB tournament and watch; if anything, top players will err on the side of being too slow. Improper time management also means not allocating time in according with the importance of a move – for example, if you are going to sacrifice a piece and are betting the outcome of the entire game on its soundness, that almost always demands a higher percentage of your time than deciding which knight to develop first. A special mention should be made about playing too fast in the endgame – a common practice in this era of fast time controls. I often see an endgame played quickly (even if the players have plenty of time left), with the position swinging wildly from win to draw and possibly even loss – and back - several times!

What you can do about it: If you play too quickly, then adopting a good thinking process should help dramatically. However, players who do so might now play too slowly! If you play too slowly because you are afraid of making a mistake, then you are usually making a bigger one by allowing severe time trouble, where mistakes are much more common and catastrophic; realizing this may be half the battle.

Here are two things you can do to improve time management: 1) Write down your time remaining after each move so that you are more aware of your pace, and *periodically compare your progress on the board with the progress on the clock, making sure they are both proceeding at about the same pace*, and 2) Do this for many different time controls over many slow games so that you develop a feel on how fast you should be playing at each time limit.

For players that play endgames too quickly, be aware that in the endgame it is *much* more common for the “non best move” to change the expected outcome of the game. So in many endgames you get more benefit out of being careful than in any other part of the game!

Since time management and Real Chess are not independent, the playing strength gained by correcting time management problems cannot be “added” the ones you get from correcting Real Chess. But if you already play Real Chess and play much too slowly, it is possible to

pick up 100-200 rating points by learning to pace yourself.

4. *Roadblock*: **Not playing enough very slow games**

I cut my teeth playing games at about 48 moves in two hours (48/2); however today's players, especially internet denizens, think that 30 minutes is a really long game! Unfortunately, that is a fairly quick speed where it is difficult to either carry lessons forward from one game to the next or to play "Real Chess" on each move. Many get hooked on the convenience and lure of on-line speed games.

Baseball guru Bill James invented the "Power-Speed Number" (PSN), a fun measure of combined speed and power: $PSN = 2 * \text{home runs} * \text{stolen bases} / (\text{home runs} + \text{stolen bases})$. If a player hits 30 HR and steals 30 bases his PSN is 30, but if he hits 60 HR and steals 0, his PSN is 0. The formula rewards balance.

We can apply this idea to chess. Instead of PSN, let's measure • **Playing Strength (PS)**, which is the gain in your playing strength over a given period of time. As a rough approximation: • **$PS \approx 2 * \text{Practice} * \text{Theory} / (\text{Practice} + \text{Theory})$**

Here Practice is the amount of time spent playing serious, slow games (assuming you go over your games to avoid making the same mistakes) and Theory = meaningful time spent reading chess books, taking lessons, reviewing games, etc.

So if you study but never play, or vice versa, you cannot improve. I know this is a simplification because you should learn something by just playing slow games, and you *lose* strength through aging and not playing, but in general it makes a lot of sense: only a good balance of theory and practice yields steady improvement. That is why you had to do homework in school or practice piano between lessons.

What you can do about it: Join an on-line slow league or, better yet, visit your local chess club and play in over-the-board tournaments. Tournaments give you the really concentrated dose of serious play that is clearly beneficial. Bypassing tournaments avoids the main proving grounds used by all top players.

A player who plays 100 games at G/90 or slower during the year is likely to improve at a much greater rate than one who plays half of that

or almost all games at 30 minutes or faster. I know that many adults don't have the time, but at least try to balance your theory and serious practice. You need to put into effect things you have learned to find out what you understood, can apply, and what works. And you must practice this consistently so you can steadily improve by applying this information more accurately in the near future.

Again the rating point gain here is *not* additive since you can't practice Real Chess in fast games. Not playing at all makes you rusty, playing occasionally keeps you about the same, and steady play, where you are identifying and minimizing mistakes, results in consistent improvement.

5. Roadblock: Misplacing general principle priorities and thus also misevaluating positions.

An evaluation yields "Who is better, by how much, and why". You won't choose move A over move B if you *believe* the position resulting from A is worse than the one from B, even if A is objectively better. For example, a player might avoid A because he gets doubled pawns, when the resultant gain in piece activity more than compensates. Or you may avoid winning a piece because it will expose your king, even though the position only requires some care and you should win easily! Some players greatly underrate the bishop pair or overrate the exchange (rook for bishop or knight). Misapplying a general principle may also result in a misevaluation. This in turn can lead to choosing the wrong move, a bad position, and a loss.

What you can do about it: The Novice Nook column *The Six Common Chess States* addresses this problem: Through reading game collections and specialized books, you learn both new guidelines and also that some guidelines are applicable – or more important – in certain positions. As your experience enables you to better understand specifically why/when these guidelines apply, you also become more able to generalize how they might apply in *any* position. Positional books deal with evaluating static weaknesses, but may result in a player overrating those weaknesses. Books that deal with prioritizing guidelines include, in order of complexity, my *Elements of Positional Evaluation*, Silman's *The Amateur's Mind*, and Watson's *Secrets of Modern Chess Strategy*.

A key point: *even excluding material/tactics, evaluation is not all "positional"*. Evaluation also involves assessing both side's dynamic

piece play/activity, and this may be the dominant aspect! Can we call this a "secret" because so many weak players don't know this and so many strong players do?

Although chess programs sometimes overrate material or have simplistic evaluation functions, it is a good exercise to evaluate many different positions and then compare your results to a computer's values. Learning how to properly evaluate a position is very difficult, and even players rated over 2000 can benefit greatly from improvement in this area.

6. Roadblock: Worrying too much about losing and ratings

This self-defining subject requires an entire book (maybe two: chess and psychology), not a paragraph...

What you can do about it: Realize that ratings are really just mathematical shadows – they will follow your playing strength, so worry about getting better, not losing or your rating. You improve when you add something positive (recognize a new pattern) or subtract something negative (get rid of a misconception or stop playing too fast). Don't take losing personally; *take the view that any game where you don't learn something is the real bad game, not your losses*. When you lose it is likely that you have done something identifiably wrong, so understanding how to minimize a future occurrence turns this experience into a strong learning tool.

A player who worries too much about losing often seeks out weaker opponents who will not punish him for his mistakes, seeking the psychological solace of a steady diet of wins. While playing almost exclusively players above you can be demoralizing and hinder your chances to learn good technique, a mixture of about 66-75% better than you and the rest equal or less seems to be about right.

7. Roadblock: Never seeking help from stronger players (make the same mistakes over and over).

Unfortunately many players either do not know any helpful strong players, cannot afford/do not want competent instruction, or are unwilling to seek any help. Alternately, they may receive (but don't recognize) less-than-helpful advice. Very few reach the peak of any highly skilled profession without proper instruction. Did you ever hear of a famous classical musician who did not either study with a

proficient teacher or attend a top-flight performing arts school? Know of a famous modern physicist who did not attend graduate school? Without proper instruction players often repeat the same mistakes and stagnate for long periods.

What you can do about it: Besides hiring an instructor, you can befriend stronger players at your local club and ask if they would take a look at your game. Review your games with a software program like *ChessMaster* or *Fritz* to identify your tactical mistakes. Playing stronger players and going over the game with them is also a good tact. The gain in playing strength varies since a helper should be able to work with you on any of the other mistakes!

8. Roadblock: Paying too much attention to memorizing opening lines instead of the two following pieces of opening advice: learn solid opening principles and avoid repeating opening mistakes.

Many players spend loads of time “memorizing” long opening sequences, relatively worthless information for weak players. Yet they often don’t apply basic opening principles, like consistently getting **all** their pieces into the game before starting a “fight”, etc. Ironically, these same players also often repeat the same general opening mistakes even though these should be relatively easy to identify and avoid.

What you can do about it: No matter how many specific lines you learn, you should always consider general opening principles. For example, many players start middlegame activities without their rooks, and do so game after game, year after year, ignoring “*Move every piece once before you move any piece twice, unless there is a tactic*”, the opening corollary of “*Keep your entire army active at all times.*” Others delay castling until it is too late, create needless weak squares, or don’t use break moves to give pieces early middlegame mobility. If you follow proper principles you will be surprised how well you can play without knowing all the latest theory.

To best learn opening lines, start by using an opening encyclopedia like *Nunn’s Chess Openings* or *ECO*, or even do a web search at a chess opening “site” to learn the “tabiyas” – the standard opening sequences of each major opening line you play. This should not take a long time – each line usually consists of about 8-12 moves. Learning a half dozen tabiyas should therefore only take a couple of hours at most; these form your baseline opening knowledge. Take note of any

devastating opening traps, just to avoid disasters.

After each game or set of games, look up every opening you play and ask yourself: “If someone played the same moves again, where would I differ?” This gradually extends your knowledge both wider and deeper. Doing so for any one game is likely only worth a small fraction of a rating point. But doing so consistently over hundreds and thousands of games is going to be worth 150+ (that may take quite a bit of effort over many years, but it works!).

9. *Roadblock*: **Not reading enough game collections**

These are a primary source of general principles, but players would rather buy another opening or “How to” book. Very few readers have played out *Spassky’s Best Games* or *Larsen’s Best Games*. Also, without reviewing hundreds of master games, one often makes mistakes that they would never see in a strong player’s game, like making empty threats, moving pieces multiple times in the opening, premature attacks, etc.

What you can do about it: After repeatedly observing patterns of correct play, you begin to do it, too. Start with Chernev’s *Logical Chess Move by Move*, progress to his *The Most Instructive Games of Chess Every Played*, and then move on to more advanced anthologies such as Nunn’s *Understanding Chess Move by Move* and personal game collections, like *Marshall’s Best Games of Chess* by Marshall or Fischer’s *My Sixty Memorable Games*.

Don’t spend a week reading each game – follow it the best you can, learn what you can, and then proceed to the next game. You don’t always have to play out every side variation. If you finish the book in a reasonable amount of time, you can augment your learning by reading more collections!

10. *Roadblock*: **Not knowing how to properly evaluate trades**

So many players are so accustomed to the old “Reinfeld” average values of 3 pawns for a bishop or knight, 5 for a rook, and 9 for a queen, that they don’t believe that these values are only rough approximations! I usually ask “What are the chances that each piece’s average value turns out to be exactly an integer multiple of a pawn?!”

What you can do about it: IM Larry Kaufman, like myself a member of the *International Computer Chess Association*, calculated the following values (rounded to quarters) from a million master games: bishop and knight $3\frac{1}{4}$ pawns, rook 5, and queen $9\frac{3}{4}$. The bishop pair is a $\frac{1}{2}$ pawn bonus. Also the king has no *trade* value, but its *fighting* value is about 4 pawns, so if you don't use your king in an endgame, you are virtually giving odds of more than a piece! Of course piece values vary by position - the queen apparently is the most variable - but these values are the averages. It is therefore more accurate to value winning the exchange as a little more than $\frac{1}{2}$ piece (bishop or knight) rather than Reinfeld's $(5-3)/3 = \bullet$ piece. Knowing the correct values should help prevent you from routinely trading, say, bishop and knight for rook and pawn, which is usually a bad deal.

Note that this problem is somewhat different than its cousin, **Being too materialistic**: a player gives too much credence to the material count and not enough to the activity of the pieces, the safety of his king, etc. Correctly evaluating trades seems to be worth 50-100 points of strength.

Honorable Mention:

Reading too many chess books and get confused. Instead of finding a few good basic ones and religiously following their advice, many players seek out ever more tomes and try to follow whatever they have read most recently. Unfortunately they also read these books "out of order", often trying to find salvation in a book that is well above their heads, like a book on positional niceties, when they fail to count correctly or don't play "Real Chess" and instead consistently allow opponents to make unstoppable threats.

Not realistically assessing your playing strength. Many players think they are "unlucky" and that their rating should be higher because of this or that. In the long run ratings are pretty accurate, so a biased view of your strengths and weaknesses can only hinder any real improvement. Other players have somewhat the opposite problem – underconfidence – and they make their losses a self-fulfilling prophecy because they are unduly afraid of players rated only a little bit higher or they are afraid to make mistakes and get into time trouble.

Trying to improve too quickly. There are some shortcuts to getting better, like concentrating on those areas that get the most bang for the buck. But some players fool themselves into thinking that they can get

experience by osmosis, or learn how to play certain positions just by seeing them once in a book. It doesn't work that way...

Not understanding how to win a won game. Many players get up a piece but have no idea how to proceed. Instead of following important guidelines like *Think defense first* (but don't play passively!), *Keep it simple*, *Make/offer fair trades whenever possible*, *Get all your pieces into play*, and *Don't worry about minor positional considerations*, they often do the opposite. For example, they unnecessarily complicate the game – they have a lot more to lose from complications than their opponent - and make it easier to go wrong and draw or even lose.

Not knowing which basic endgame positions are won or drawn. This doesn't mean more “advanced” endings like Lucena or Philidor, but much more basic positions, like king and pawn vs. king. If you don't know which are wins and how to do it, then it is difficult to know when to trade and when not, so your technique suffers. For example, knowing that rook and pawn endgames are easier to draw than king and pawn endgames (and how!) can make a marked difference.

Taking weaker opponents lightly. You must always assume your opponent will find the best move. If you try to beat someone quickly by *making a bad move and hoping they play a worse one*, you will often find yourself losing to players much weaker than yourself. Don't play to the level of your opposition; play your best on every move against all opponents. Then hold your head high even when you make mistakes, which we all do.

Novice Nook Special

The following is an extension to my theory on positional evaluation. Almost 30 years after codifying them, I found that I have omitted a small but interesting aspect to the 7 elements that determine piece value. This aspect is not a new element, but a part of *flexibility* and/or *mobility*. A quick review: there are two main, balancing aspects where a bishop is superior to a knight and two others where a knight is superior to a bishop:

- 1) bishops over knights, because bishops have more *potential mobility* and more *speed* (it is “long-range”)
- 2) knights over bishops, because knights have more *potential global mobility* (can visit all 64 squares vs. 32) and their *actual mobility* is

closer to their *potential mobility* (can jump over pieces). [*Potential Mobility* = number of squares/moves to which a piece could move from a particular square if the board was empty; *Actual Mobility* = number of legal moves a piece has in a legal position; *Global* = throughout the game] I found the missing aspect by contemplating the following: If a king has an average fighting power of ~4 pawns and a knight and bishop only $3\frac{1}{4}$, why is a king worth more? After all, a king has a minimum potential mobility of 3, 1 more than a knight and 4 less than a bishop. A king has a maximum mobility of 8, same as a knight (although it achieves that maximum on 36 squares to the knight's 16) and much less than the bishop's 13. Finally, a king has the same Potential Global Mobility as a knight (64) but is slower than both knights and bishops. The king's special vulnerability should make it even weaker, so what gives? The answer is twofold:

- 1) A knight and king can move in 8 directions, a bishop in only four, so it is easier for knights and kings to double-attack. Of course, a bishop can skewer and pin, as can all fast pieces.
- 2) A king can easily get to contiguous squares to attack pawns and the squares to which pawns can move, while neither knights nor bishops can attack a pawn and simultaneously the immediate square to which the pawn can move.

So the king has more *directional flexibility* than a knight, which in turn has more than a bishop. The queen has a similar advantage over a rook or bishop, which is one reason a queen is worth more than a rook and a bishop combined.

Dan welcomes readers' questions; he is a full-time instructor on the ICC as Phillytutor.



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