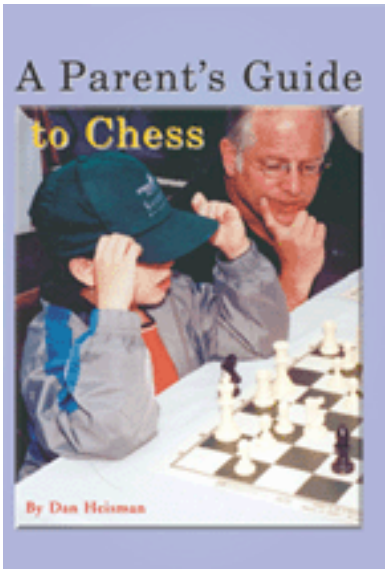
COLUMNISTS

Novice Nook

Dan Heisman



A Counting Primer

Dan's quote of the month: *"It does not matter who gets the advantage out of the opening if one of the players is likely to lose a piece to a simple tactic in the middlegame. Losing a piece from an advantageous position will almost always result in a losing position. So study tactics, not openings, until you almost never lose pieces to simple tactical motifs."*

If you have read previous Novice Nooks, you may recall that I list four primary levels of tactics. Tactics can be considered *the science of chess piece safety*, with the goal of winning material/mating or, equally importantly, using/avoiding tactics defensively to prevent loss of material or mate:

1. en prise (leaving pieces where they can be captured but not recaptured)
2. counting
3. single motif tactics
4. combinations

Counting is the process of determining whether any sequences of captures on a square might lead to loss of material. If not, the piece on the square is considered "safe."

Most beginner books bypass counting and jump right into single motif tactics: pins, double attacks, removal of the guard, etc. Yet most players under 1400 are very susceptible to making counting errors that cost them games. These errors may be due to the fact that they misunderstand the value of the pieces, or just miscalculate.

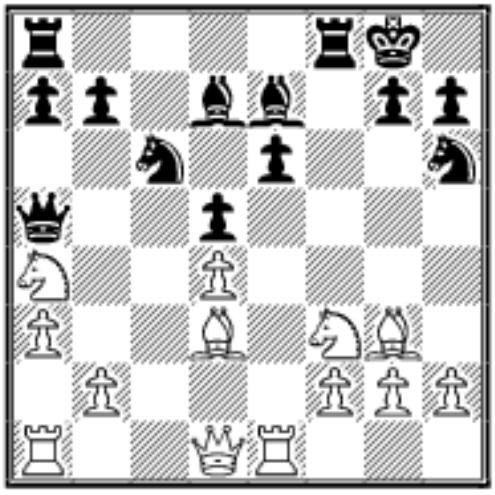
The Value of the Pieces

For those who missed IM Larry Kaufman's award-winning article in *Chess Life* on piece value, the best average piece values to use are: knights and bishops are worth about 3.25 pawns (*not* points!), rooks 5,

and queens 9.75. Pawns, of course, are worth 1. Having the bishop pair (when you have both bishops and your opponent does not) is worth a bonus of about 0.5 pawns. So trading a knight and bishop for a rook and pawn loses about half a pawn, but if in doing so you also lose the bishop pair, you lose a total of about 1 pawn, which is approximately what it takes for one master to beat another! For example, consider the following common beginner sequence: **1. e4 e5 2. Nf3 Nc6 3. Bc4 Bc5 4. O-O Nf6 5. Ng5?! O-O 6. Nxf7? Rxf7 7. Bxf7+ Kxf7**:

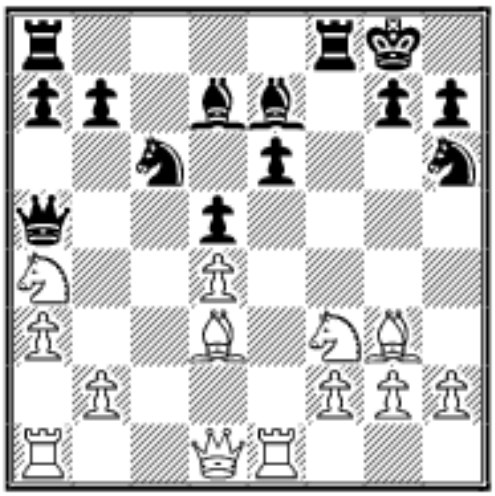
A beginner playing White might mis-evaluate: “I have given up a bishop and knight for a rook and pawn – so each side has traded six pawns, but his king is exposed, so I am winning.” An experienced player with the Black pieces should evaluate: “White has given up a bishop and knight for a rook and pawn, so I am ahead half a pawn (6.5-6), but I also have the bishop pair, so that makes it one pawn ahead, and am ahead about 3 tempos, worth almost another pawn for a total of almost two pawns ahead. My king is safer than his since I can get pieces there quickly while he has nothing that can harass mine, so I am pretty much winning.” This situation is entirely due to White’s initial “counting error” of the trade on f7 (as well as his misunderstanding of other aspects of the position).

A similar mistake is thinking that winning “The Exchange” (a rook for a bishop or knight) is worth two full pawns when in fact it is only worth about half a piece, and even less if you lose the bishop pair in the process. Getting a pawn and the bishop pair is almost worth the exchange by itself, and in many positions is worth more. Many weak players clearly overrate the exchange; I wish I had a nickel for every time I saw a beginner voluntarily lose a piece (!) instead of the exchange because “he did not want to lose a rook (sic)!” So it is worth repeating: It is *much* better to lose a rook for a piece (the exchange), than a piece for nothing! As noted above, it is only about half as bad. Within two hours after writing the above lines, I was watching a student playing Black on the Internet Chess Club. He reached the following position:



A few moves before he had been winning easily, ahead three pawns. However, instead of heeding the advice from my column two months ago (on *How to play when you are way ahead*, such as keeping things simple) he had met an attack with a counterattack, the position got a little complex, and now he had to lose material. The good news was that he would still be ahead, as after the "routine" 1…Bf3 2. Nxd6 exd6 he has the bishop pair and three pawns for the exchange with an "easy" win still likely. Instead he hesitated - you could almost hear him thinking "don't lose the rook!" - and played **1…Rd3??** After **2. Rxg2** he now had a very bad position and soon lost on time. If I had a nickel for every time I saw this "miscount" happen I probably would be writing Novice Nook from a villa in France (anyone got one to invite me…?).

The following is an example of an exchange sacrifice that strong players make routinely, but weak players usually don't even consider:



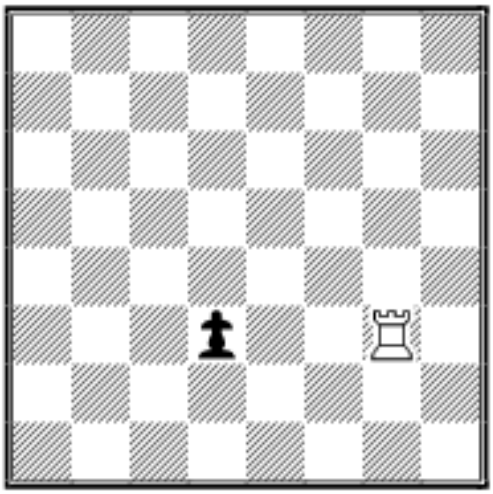
The above position is from Keres-Bronstein, Moscow 1956, with Black to move. Bronstein continued **18…Rxf3! 19. gxf3 Nxd4** and already Black is a little better, not "down a pawn" as a simple "rook is worth 5, knight plus pawn worth 4" evaluation would have you believe. I call the older "3 pawns for a bishop and knight" *Reinfeld values* since so many chess books in English in the 1950's and 1960's were beginner books by Fred Reinfeld. Reinfeld values are great to teach beginners, but if you are going to be a good player you are going to have to graduate from them, or at least not follow them slavishly.

Counting Exercises

There are exercises that can enhance a player's ability to see whether or not a trade of pieces is favorable. I suggest that any beginner should

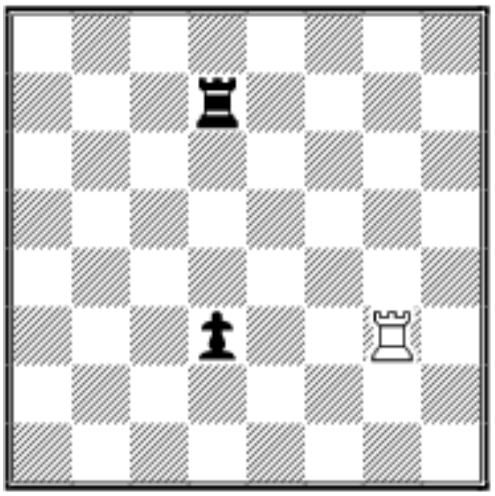
start with these before they ever do any more advanced tactical exercises; adequate counting is a prerequisite for doing tactical motif (pin, double attack, removal of the guard) problems. We will start with the most basic examples (similar to those in *Everyone's 2nd Chess Book*) and any instructor will be able to set up some more if you need them. These exercises start out very simple, but stick with them – I think most of my readers will learn something!

In each of the next 9 problems the question will be, "**White to move; is the pawn on d3 safe?**" Note that the Kings are intentionally left off the board so that you don't try other moves – we are just concentrating on captures on d3, and thus only the safety of the pawn on that square.



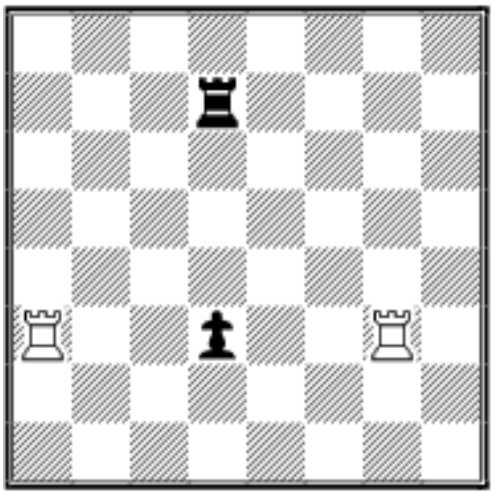
White to move: Is the Black pawn safe?

The answer is, of course, no. **1. Rxd3** would win the pawn. Too easy, you say? True, but let us build up the difficulty one step at a time. Since the pawn is attacked once and it is guarded zero times, you can win it. This is actually the first level of safety, "en prise" since the pawn can be taken for free. En prise involves counting in a trivial sense where the attacker's count is one or more and the defender's count is 0!

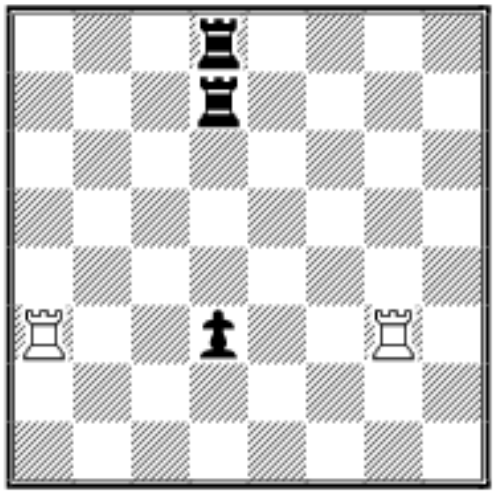


Now the answer is yes, the pawn is safe. After **1. Rxd3? Rxd3** Black would be ahead by four pawns on that trade: (R=5) – (P=1) = 4 pawns ahead for Black. Therefore White, with the freedom to make any move he wanted, would almost undoubtedly not want to take the pawn. *We can see from this example that if a piece or pawn is guarded as many times as it is attacked, it is safe from capture as long as all the guarding pieces have the same value* (which, as we shall see shortly, is not always

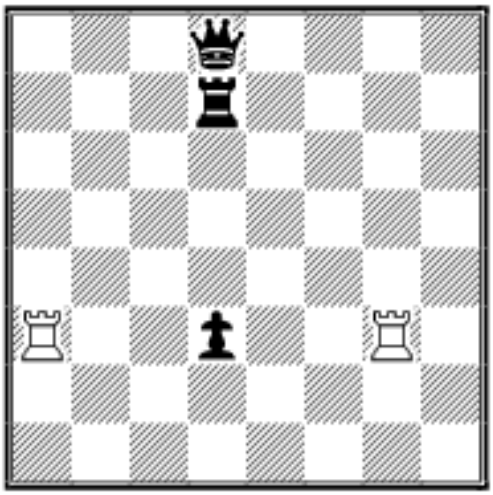
the case!).



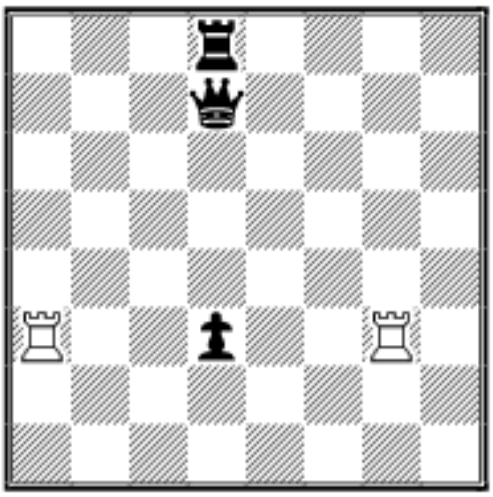
Now the answer is back to no. After **1. Raxd3 Rxd3** (moving the Rook away instead of recapturing also leaves Black a pawn behind) **2. Rxd3** White wins a pawn so it is not safe. Notice here it is attacked twice and defended once, all by pieces of the same value, so that is an indication that it is not safe.



The answer in the above is yes, it is safe. **After 1. Raxd3? Rxd3 2. Rxd3** The alternative of not recapturing still does not help White. After **2...Rxd3** Black is again ahead four pawns.

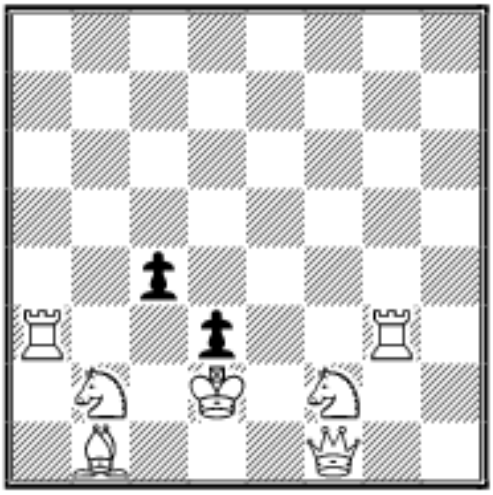


The answer is still yes, the pawn is safe. Substituting a Queen for the Black Rook behind the pawn makes no difference, because the Queen can capture last: After **1. Raxd3? Rxd3 2. Rxd3 Qxd3** Black is again up four pawns. But with just a simple switch…

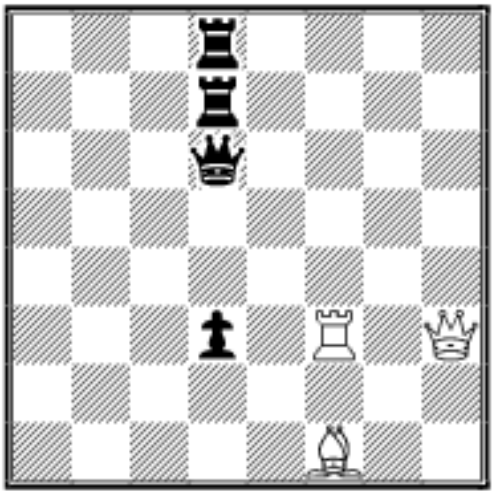


All of a sudden the problem isn't so trivial! With the Queen in front of the Black Rook, any recapture must give up the Queen: After **1. Raxd3 Qxd3 2. Rxd3 Rxd3** Black has captured two Rooks (2 x 5 = 10), but had to give up a pawn and a Queen (9.75 + 1 = 10.75), so the trade is just slightly better for White, although the answer depends to a large extent on where the rest of the pieces are! In this case the pawn is often considered safe (since the Queen value may vary so much by position), but a valuable lesson is learned – *it matters what order you can capture (or re-capture) when determining whether a piece is safe*.

The above example shows that the *attacker's initial order of capture* also matters. The pawn is not safe as long as *White properly begins his capturing sequence with his lowest valued piece, the Knight*: **1. Nxd3** wins the pawn. Notice that Black would be foolish to recapture, as **1…Rxd3 2. Qxd3** wins the pawn and the exchange. In that case White captures 5+1 = 6; Black captures 3.25, so Black loses 2.75 instead of the 1 he would have lost if he had not recaptured. *Remember, you are never forced to recapture!* Chess is not checkers. Young beginners often make the mistake of making all possible captures on a square once one has been initiated. Of course, if White had captured with the Queen first, that would be a huge mistake, as after 1.Qxd3? Rxd3 2.Nxd3, White would lose the equivalent of 3.75 pawns – a Queen (9.75) for a Rook and pawn (5+1).



All of White's pieces are ready to capture Black's pawn on d3, but it is safe no matter how many times it is attacked by higher valued pieces, because the combined value of the defending piece – the pawn at c4 – and the attacked piece – the pawn at d3 – is less than the value of any piece that can take it. So any capture on d3, such as **1. Nbxd3? cxd3 2. Nxd3,** will cost White the equivalent of 3.25 pawns (a Knight), while winning only two. Yes, White can capture the pawn on c4, which is not guarded by 1. Nxc4, but that was not the question!



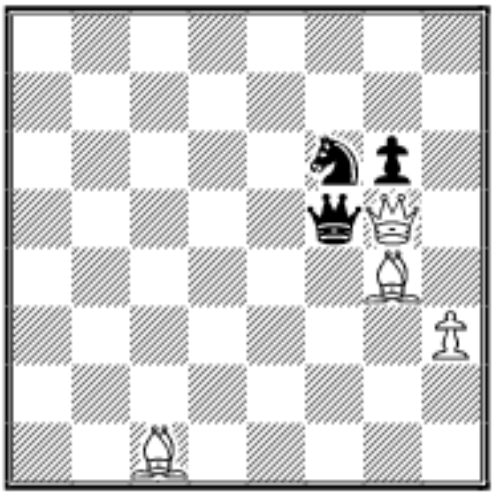
This very important example shows that you just cannot count up the value of all the pieces that would be capturing on the square (except one never counts the final piece, which captures last and is not taken off the board). White should play **1. Bxd3**, and if Black plays **1…Qxd3?**, then White should play **2. Rxd3 Rxd3** and then White should not recapture, but instead move his Queen to safety, coming out about 1.5 pawns ahead (getting 9.75 and giving up 3.25+5). If White continues **3. Qxd3? Rxd3**, then White would have given up 3.25+5+9 = 17.25 and only gotten 1+9.75+5 = 15.75, losing 1.5 pawns instead! So the pawn is not safe. This example once again shows that *you should only do as much exchanging on a square that is favorable to you; any further exchanges that are not favorable are not forced and thus should be avoided*.

More Counting Examples

You might have read all of the above "d3" examples and said to yourself: "I did not learn anything. None of the counting problems that were discussed would ever happen to me." Unless you are a very strong player, you are very likely wrong – such miscounts happen all the time in the games of my students. Consider the following type of

counting error that occurred in a slow game of one of my students, who is by no means a weak player.

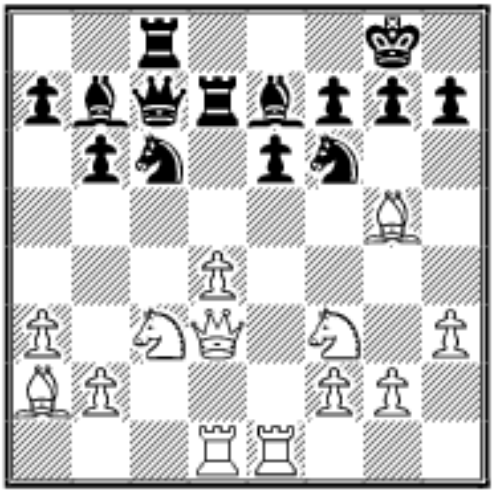
In order to best illustrate the problem I have again removed the irrelevant pieces from his position, but material was even (Black is not down a piece since the diagram below only represents a fraction – the relevant part - of the actual position). White has just played **1. Bg4** attacking the Queen:



Black safeguards the Queen by playing **1…Nxg4**. What should White do?

White played the "counting error" **2. Qxf5?** This *zwischenzug* allowed Black to recapture **2…gxf5** and then, when White finally captured back with **3. hxg4**, Black had an extra attacker on g4 and was now able to win a pawn with **3…fxg4**. Black, up a pawn, went on to win the endgame. Instead White should simply have recaptured on g4 with the Queen or the pawn (2. Qxg4 or 2. hxg4), and material would have been even. What is more amazing is that when going over this game with my student, he was unaware that his capturing sequence lost a pawn!

Combined with tactical motifs, especially removal of the guard, counting in some positions can be extremely complicated – as complicated as any other combination, since it now becomes part of a multiple-motif calculation. Consider the following example given from IM John Watson's superb work *Secrets of Modern Chess Strategy* (notes based on Watson and Fritz 7™):



This is Szabo-van Seters, Hilversum 1947, after Black's move **16…Rd7**. Can White safely play 17. d5? This is not easy at all. I am not asking whether 17. d5 is a good move – that is even harder! I am just asking whether playing 17. d5 loses material in any line.

The game continued: **17. d5!** At 11 ply, Fritz7 rates this as clearly best, with White evaluated as better by almost a pawn. White actives his central forces. Watson writes: "This pawn-break epitomizes White's strategy, and its playability…" Note his word "playability" – in some senses he means that it is a safe move! **17…Nxd5** Fritz rates this as a mistake, but even after the improvements 17…Qb8 or 17…h6, White is much better. **18. Bxd5!** This is superior to the alternative 18. Nxd5. **18…Qd8?** Fritz says the only move that even stands a chance is 18…h6. **19. Qe4** This wins, but Watson does not mention that 19. Bxe7 Nxe7 20. Ng5 is even more advantageous! **19…exd5** Better, but not sufficient to save the game, is 19…Bxg5 20. Bxe6! **20.Nxd5** It is apparent that White has a massive attack. **20…Bxg5 21. Nxg5 g6 22. Qh4 h5** Now a simple fork with the underrated tactic "removing the guard" wins the exchange**: 23. Nf6+ Qxf6 24. Rxd7 Nd8 25. Re8+ Kg7 26. Rxf7+** Fritz does not rate this as one of White's three best moves, but any move that is sufficient to cause resignation is probably good enough!: **1-0**

I see counting errors by players of even intermediate tournament strength, so the bottom line is that it pays to know how to count correctly, and to do it every time. It is not an easy skill by any means, and a quite underrated one. I rarely see discussions about chess improvement refer to counting, but no discussion about how to get good at chess should overlook how to learn and practice this important skill.

Reader Question

My greatest weakness is the opening. Any suggestions?

Answer

I think my answer should help everyone who worries about this. First, my suggestions depend upon your level of play. For very weak players just get your pieces out safely. For not-so-beginners:

1. Understand the three main goals of the opening: Mobilize ALL your forces, castle your king into safety, and get some control of the center. Of course the overall goal is to reach a playable middlegame where your forces have good things to do.

2. Learn the general opening principles that apply to all openings to help you reach those goals. The most important is to develop your pieces quickly and efficiently. When in doubt use the guideline: "Except where safety dictates, move every piece once before you move any piece twice!" The second most important is to learn the concept of "*break moves*" (moves like …c5 in the French or …f5 in the main line King's Indian) which break down your opponent's pawn chains and thus gain space and force open lines for your rooks and other pieces. One source of this type of maneuver is Hans Kmoch's *Pawn Power in Chess*. He has his own nomenclature, but his concepts are great; I think he calls break moves something like "liberating levers." This concept is so important that I will devote a future Novice Nook to break moves.

3. Play sharp openings, like gambits, to learn tactics. If you are not good at tactics, that is all the more reason to do so!

4. Buy *Nunn's Chess Openings* or *MCO-14*, and

A) Learn how to use it so it is easy to look things up. Many of my students avoid using such opening encyclopedias just because they don't take 5-10 minutes to figure out how to read them!

B) Learn the traps in the openings you play – the ones that win for you, but especially to avoid the ones that lose for you.

C) Look up the games you play after you play them to see "What would I do differently if an opponent played the same moves in a future game?", and

D) Don't spend a lot of time studying specific lines - use that time to study tactics instead. If you must study specific lines, first learn the "main line" and then over time you can branch out to greater width.

5. Look at games played by good players in your opening to see what the ideas are in the openings you choose: where the pieces usually go, where the pawn breaks are, where to attack in the middlegame, etc.

6. If your opponent does something you have never seen before, don't panic, but don't assume that you can just going on doing what you were going to do; sometimes that is great and other times disastrous. But this will happen so often that you will wish you had not spent so much time studying specific lines, so don't!

7. Don't worry too much about openings - it is probably the least important part of chess except for knowing note #1.

Once you are rated over 1300 USCF/FIDE, then specific opening study should be expanded, but my personal belief – and that of many experienced instructors – is that spending a large amount of time studying *specific opening lines* is not a really efficient use of your chess study time until you approach a rating of at least 1800-2000

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